Last in first out?
An investigation of the regression hypothesis in Dutch emigrants in Anglophone Canada

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Last in first out?

An investigation of the regression hypothesis in Dutch emigrants in Anglophone Canada

ACADEMISCH PROEFSCHRIFT

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de Vrije Universiteit Amsterdam,
op gezag van de rector magnificus
prof.dr. L.M. Bouter,
in het openbaar te verdedigen
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door

Merel Christina Joanna Keijzer

geboren te Wageningen

promotor: prof.dr. J.L. Mackenzie

For Tom

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Merel Keijzer
Amsterdam, June 2007

Contents

Introduction

"I am telling you this like a child would tell a story"

This study examines non-pathological language attrition and, in particular, compares it to language acquisition. More specifically, it examines the parallels and divergences between the L1 attrition of Dutch émigrés in Anglophone Canada and advanced stages of L1 Dutch acquisition (in adolescents). The quotation above was produced by one of the Dutch Canadian subjects, when asked to retell part of a film clip she had just seen. She was apparently aware of the fact that her Dutch language use diverged from that of a mature, non-attrited native speaker.

Investigation of different unstable language systems has traditionally been popular in scientific research, as "the study of language during its unstable or changing phases is an excellent tool for discovering the essence of language itself" (Slobin, 1977: 185). In other words, it is when things go wrong that a window on the mind can be provided, giving insights into how language functions when things are 'not quite right'. Different studies have taken different unstable language systems into account. They have, for example, compared the early stages of child language to language loss in aphasia patients (Ribot, 1883; Pitres, 1895), but have also compared varieties arising from historical language change, language contact and pidginization and creolization (Slobin, 1977). In addition, research endeavors have focused on the comparison between child L1 acquisition, child L2 acquisition and adult L2 acquisition (Unsworth, 2005). Traditionally, it is the comparison between language acquisition and language loss that has received most attention (cf. de Bot & Weltens, 1991). In particular, such research has been guided by the question whether the sequences and patterns observed in language erosion are the reverse of those found in acquisition. This idea has been captured in what has been termed the regression hypothesis.

The regression hypothesis

The basic tenet of the regression hypothesis is that language loss is the mirror image of language acquisition. In other words, features that are acquired late in childhood also tend to be lost early. The hypothesis is often ascribed to Roman

Jakobson (1941), but has been applied widely and frequently elsewhere and is not always confined to language either. For example, Jackson (1958) employed regression to describe the pathological dissolution of the central nervous system. Generally, the regression hypothesis fits well with the ambition to integrate "different disciplines into one great concept" (de Bot & Weltens, 1991: 37).

Still, Jakobson specifically applied regression to language and "it was with Jakobson that these principles combined into a consistent and coherent structure" (van Schoonenveld, 1977: 1). At the basis of his formulation of regression is the belief that the most important task of linguists is to uncover the laws of language systems, operationalized as an investigation of the parallels between different language systems in flux. This belief eventually led to the publication of his seminal *Kindersprache, Aphasie und allgemeine Lautgesetze* ('Child language, aphasia and phonological universals') (1941).

Kindersprache is essentially a comparison between the early stages of child language acquisition and the sequences in pathological language loss in aphasia. In particular, the regression hypothesis was formulated on the basis of evidence from Slavic languages only and, in particular, the phonological system, which is characterized by opposing values of binary features, such as /p/ versus /b/, /t/ versus /d/ or /k/ versus /g/. Not only is one member of these pairs acquired before the other (/p/ precedes /b/ in acquisition), but the bilabial pair /p,b/ as a whole is acquired earlier than the alveolar pair /t,d/, which in turn precedes the velar /k,g/ (Jakobson, 1972: 48-50).

Jakobson captured these dependency relations in unidirectional hierarchies, which he called "irreversible laws of solidarity" (Jakobson, 1968: 64). Such hierarchies postulate that feature B is not acquired before feature A has been acquired. Conversely, feature A is not compromised before feature B has eroded. Implicational hierarchies constrain the amount of variation that can occur and at the same time provide testable predictions about the parallels in acquisition and attrition patterns. An illustration is provided in the phonological sequence in (1).

1) /p/ < /t/ < /k/

This hierarchy can be interpreted as follows: /p/ is acquired earliest and is a necessary prerequisite for the emergence of /t/, which in turn needs to be in

place before /k/ can develop. In language loss, /k/ is most vulnerable to loss and if /k/ is still in place, /t/ must still be present too. Finally, /p/ appears to be least susceptible to erosion. In other words, the presence of /k/ implies the presence of /t/, which in turn implies the presence of /p/.

Also important in Jakobson's formulation of the regression hypothesis are markedness considerations. Binary oppositions invariably consist of one unmarked and one marked member. The earlier acquired features generally coincide with the unmarked member of each pair. In the case of phonology, unmarked typically corresponds to unvoiced. To illustrate, /p/ is acquired before /b/ and at the same time is the unvoiced, unmarked member of the pair. As unmarked features are generally acquired before marked features, the latter items are predicted to be more susceptible to loss.

A problem with markedness constraints is that they may work for phonology, but not all grammatical systems are based on paired oppositions (Waugh, 1991: 5). Word order, for example, is not a categorical, either/or phenomenon, but instead is determined by the grammatical context, which does not invariably select between two options.

Jakobson's formulation of the regression hypothesis is based on very little evidence: it only builds on the phonological system and, in addition, is only concerned with Slavic languages (de Bot & Weltens, 1991: 46). Surprisingly few studies have taken up the regression hypothesis in data-driven approaches. Those that have, have either compared child language acquisition with language loss in aphasia, as intended by Jakobson, or have looked at the similarities between acquirers and non-pathological language attriters, such as emigrants.

Comparing child language acquisition and pathological language loss in aphasia

Jakobson's original idea to compare child language acquisition with patterns in pathological language loss in aphasia has also extended to more recent studies (Caramazza & Zurif, 1978; Grodzinsky, 1990; Avrutin, Haverkort & van Hout, 2001; Kolk, 2001; Bastiaanse & Bol, 2001). None of these studies has resulted in conclusive evidence with respect to the regression hypothesis, however. In other words, these various studies were not able to find evidence that the order found in attrition is in fact the mirror image of acquisition.

The failure to discover any trends in the data is likely to originate in the problematic comparison of the two populations of children and aphasics and can be roughly grouped under three headings. First, aphasia results in local brain damage, which typically leads to partial language impairment. Problems may be observed in either comprehension or production or, in even less straightforward cases, in an interaction between the two where patients may comprehend the meaning of a word (reflected in their ability to point out an appropriate picture), but are unable to describe it (Altmann, 1997: 186-189). By contrast, language acquisition in children is a global process that affects the whole language system and is accompanied by cognitive maturation (de Bot & Weltens, 1991: 39). Second, aphasia typically causes a sudden disruption, while language acquisition is gradual by definition (de Bot & Weltens, 1991: 39). Gradual here does not necessarily imply linear; language acquisition may show spurts and arrests, but is a piecemeal process that is not completed overnight. Third, aphasics often show adaptation strategies to cope with their impairments. It is not clear to what extent such strategies cause a rewiring of the brain. In other words, aphasia may be characterized by a restructuring of the neural substrate (de Bot & Weltens, 1991: 40). As the initial state is thus different in language learning and aphasia, any comparison subsequently becomes difficult. It is likely that these differences in the process of acquisition and pathological language erosion cause divergences in the outcome of both, which in turn explains the lack of consistency in the findings produced by studies that have compared them.

It has been suggested that a better candidate for comparison with child language is dementia, because of the diffuse brain damage that underlies it, as opposed to the local impairments in aphasia (Obler, 1982; de Bot & Weltens, 1991: 40). However, dementia too is a multi-syndrome phenomenon, triggered by diseases such as Alzheimer's, Parkinson's disease or Huntington's chorea. A comparison with child language therefore runs into similar problems as in aphasia: various dementia syndromes are hard to equate with particular stages in child grammars.

Comparing child language acquisition and non-pathological language attrition

Better still is to test the regression hypothesis using a form of breakdown that is not so diverse: language attrition in healthy adults who have lived in an environment where the dominant language is different from their L1. Comparisons of child language with non-pathological language attrition (henceforth simply attrition) have long been attempted. There are theoretical discussions of constructs that underlie such a comparison (Andersen, 1982; Berko-Gleason, 1982), but also data-driven studies that look at parallels between either L1 acquisition and L1 attrition (Jordens, de Bot, van Os & Schumans, 1986; Jordens, de Bot & Trapman, 1989; Håkansson, 1995; Schmid, 2002) or L2 acquisition and L2 attrition (Cohen, 1986; Kuhberg, 1992; Hedgcock, 1991, Hansen, 1999; Hayashi, 1999). Like the earlier investigations into the relation between acquisition and pathological language loss, these have produced mixed results. This can largely be blamed on inconsistencies in data collection methods, which make it hard to compare and generalize findings (Schmid, 2004). In addition, the majority of these studies have compared attrition to language development in very young children. Previous work on attrition has not revealed great losses, but non-pathological language attrition appears to be characterized by subtle and relatively minor losses (Hansen, 2001). It is therefore not expected that attriters will regress to the stage where their linguistic systems resemble those of 4 or 5 year-olds. Moreover, what is lacking in most of these studies is an explanation for the regression patterns that are found. In other words, they typically do not ask the question why regression obtains. All of this has led to the current situation in which, despite many efforts, relatively little is known about the process of regression or its causal mechanisms.

The present study

The present study is an attempt to build on the groundwork provided by past investigations of regression. The main research question is whether mirror symmetries can be found between L1 acquisition and L1 attrition and, if so, what might cause these regression patterns. The language under investigation is Dutch and the L2 triggering the changes in the attriting subjects is English as spoken in Anglophone Canada. In order to answer the research question, a

controlled research design is used in which 15 morphological and morpho-syntactic features are examined through both controlled language tasks and spontaneous narratives. The focus on morphology and syntax was chosen on the basis that both show gradual processes of acquisition, as opposed to areas like the lexicon where clear spurts can be identified (de Bot & Weltens, 1991: 46). Because of the subtlety of non-pathological language erosion (see above), the present study does not compare language attrition to early stages of language development and is thus clearly different from earlier work.

Evidence about language development is normally based on existing descriptions of L1 acquisition, which typically do not go beyond the ages of 4;0 or 5;0. However, language acquisition is far from complete at this stage and anecdotal evidence suggests that fine-tuning of the language system continues until well into puberty (Garton & Pratt, 1989). This study therefore examines the parallels between L1 attrition and advanced stages of L1 acquisition in Dutch adolescents of 13 and 14 years of age. They are expected to have reached near-complete mastery of their native language systems, but their grammars may nonetheless continue to show optionality where mature grammars do not. This might correspond to the subtle changes found in attrited language systems.

Thus, three population samples are included in the research design: Dutch emigrants in the English-speaking part of Canada, Dutch control subjects who have never lived anywhere else than in the Netherlands and a group of monolingual Dutch adolescents. The former two groups consist of 45 subjects each, whereas 35 participants make up the learner group (see also 6.1).

Outline

The different stages of the research are reflected in the organization of this work. Chapter 1 discusses a number of theoretical constructs underlying the study. It presents background on sequential stages in L1 acquisition and attrition, and it reviews various theoretical frameworks that could have explanatory value in relation to regression.

Chapter 2 is a preliminary chapter that prepares for Chapters 3 to 5, the last-mentioned of which form one larger unit in the sense that all three spell out various aspects of the linguistic features that form the basis of the investigation into regression. Each of these morpho-syntax chapters provides a brief outline

of the Dutch system, details the order and manner of acquisition and also gives information about the English counterpart of the features under investigation. This is done in order to distinguish regression from L2 influence. Each chapter concludes with an outline of the acquisitional sequences that are found for each feature, on the basis of which predictions about its attrition are formulated. Chapter 3 focuses on noun phrase morphology, Chapter 4 presents information about verb phrase morphology and Chapter 5, finally, is concerned with morpho-syntactic features.

Chapter 6 presents the research design underlying this study. It provides additional information about the subjects who participated in this research, outlines the procedures that were followed, and also provides an overview of all of the tests that were included in the test battery and describes the methods of analysis.

The results that were obtained on the basis of the research design are presented in chapter 7. Through the use of statistical analyses, parallels and divergences between the three populations emerge, both in relation to their performance on the controlled language tasks and with respect to their spontaneous speech. In order to arrive at an accurate understanding of regression, Chapter 7 also shows to what extent the results were influenced by extralinguistic variables such as age, gender, educational level and region of birth and upbringing.

Chapter 8 briefly isolates those features that revealed mirror symmetries between acquisition and attrition, relating back to what previous studies have found. Chapter 9 then attempts to account for these tendencies and thus to answer the question what causes regression. Chapter 10, finally, concludes this work by not only pointing out what implications, both scientific and social, the results of this study have, but also by indicating the study's limitations before turning to future directions.

Chapter 1
Theoretical Foundations

One possible way to test the regression hypothesis is by comparing the outcomes of acquisition and attrition at one static point in time, but regression ultimately depends on stages or patterns in both processes; acquisition and attrition are considered to be layered, with one feature preceding another in both acquisition and attrition (see Introduction). This chapter therefore explores a number of notions that underlie developmental patterns in acquisition and attrition and focuses on the question how the similarities between the two can be captured in implicational hierarchies.

Past investigations of the regression hypothesis have typically failed to look beyond parallels between language acquisition and language erosion. However, the identification of similar tendencies alone is not enough. Regression may constrain the amount of variation that can occur, but cannot explain it (Bybee, 1988: 352). A more important question to ask is thus what causes such mirror symmetries. A large part of this chapter is dedicated to different theories that could explain regression patterns, starting with formalist or generativist accounts that seek explanations within the rule structure of the language system itself. Moving on from generativism, we explore usage-based approaches that take language input to be the most important factor underlying language development. Finally, a relatively new theory, at least in relation to language, is presented, which may have further explanatory power in relation to regression: Dynamic Systems Theory.

1.1 Patterns in L1 acquisition and L1 attrition

1.1.1 Patterns in L1 acquisition

The focus on stepwise development in language acquisition studies has resulted in universally acknowledged phases in child language, such as the crying stage, the babbling stage, the one-word or holophrase stage, the two-word stage and, finally, the multi-word stage (Schaerlaekens, 1977; Garton & Pratt, 1989). They

are universal[1] in the sense that every child, regardless of his or her language background, passes through these stages. During the final multi-word phase children start acquiring language-specific information regarding constituent ordering and marking. As a consequence, children deviate too much from one another to permit the identification of further universal stages after the multi-word phase. Studies that examine the order of the acquisition of features within a particular language also abound, particularly in the realm of morphology; there is a considerable amount of research that has investigated the emergence order of grammatical morphemes (Brown, 1973; Dulay & Burt, 1974).

The exact manner and speed with which a child passes through the various stages in the mastery of his or her language depends on the language domain under investigation. For example, vocabulary acquisition is characterized by non-linear spurts (Garton & Pratt, 1989: 79-80), but areas like morphology and syntax generally show much more gradual and piecemeal steps of development (de Bot & Weltens, 1991: 46). In all cases, the various stages have been found to be interdependent. In other words, mastery of one feature will lead to the acquisition of another. A good example of this is the acquisition of finiteness in Dutch as a morphological achievement. Once this system is in place, it enables the child to master the Dutch word order system, because the second position in the sentence (V2) is associated with finite verbs and the final slot is reserved for non-finite verbal elements. (Jordens, 1988b: 132f, see 5.3.1 and 5.3.2).

The observation that language development is layered and that one feature builds on the mastery of another has led to the postulation of implicational hierarchies to describe acquisition processes. An example of such a hierarchy is presented in (1) and concerns the universal order of early verbal development in children described above:

1)

crying stage	<	babbling stage	<	one-word stage	<	two-word stage	<	multi-word stage

[1] While these stages do tend to be universal across the board, in polysynthetic languages, which rely on morphologically-complex and long words, different tendencies can be identified. The latter group of languages includes many Native American varieties.

This can be interpreted as follows: the crying stage precedes the babbling stage and before a child has started to babble, he or she cannot be expected to enter the one-word stage. The one-word stage in turn is a necessary prerequisite for the two-word stage. The multi-word stage, finally, only occurs after all the other stages have been completed.

The hierarchical convention presents a schematic way of indicating the order of language development, but the assumption that certain structures precede others in child language is not without its problems. Individual differences may greatly distort the general picture. It has therefore been claimed that the strongest prediction that can be made is that a feature either precedes or occurs simultaneously with another (Hawkins, 1991: 474). As a consequence, it seems justified to regard implicational hierarchies as relative rather than absolute at all times (van Hout, Jaspaert & Vermeer, 1985: 265).

A final question to ask in this context is what triggers developmental paths in children. In other words, why do children show progression in their language acquisition? One possible explanation that has been offered lies in the cognitive domain: children's combined cognitive strategies for language, perception and memory capacity increase, enabling them to deal with more complex information more effectively (Garton & Pratt, 1989: 119). An alternative explanation may be that children's ability to apply existing strategies grows in sophistication (Garton & Pratt, 1989: 119). It is equally possible that both principles are at work. Either way, the stepwise process of development in children's mastery of their first language is well established.

1.1.2 Patterns in advanced L1 acquisition

The present study seeks to compare language attrition with the advanced, final stages in L1 acquisition (see Introduction). Here, it runs into problems, as the existing literature on language acquisition predominantly reviews the order of language development up to the age of 5;0. This does not mean that language acquisition is complete at this stage; considerable amounts of fine-tuning occur after 5;0 before the child's grammar resembles that of an adult (Schaerlaekens, 1977: 175; Garton & Pratt, 1989: 118).

In Dutch-oriented studies, for example, the following global image of post-5;0 language development has been given. First, phonological development is almost entirely in place at 5;0. The only phonological feature

that tends to be problematic at this stage is the word-initial consonant cluster spelled as *sch- (/sx/)* (Schaerlaekens, 1977: 175). Second, the vocabulary of any Dutch-speaking child around the age of 5;0 has been said to lie at 2562 words, but continues to grow after this stage. In fact, vocabulary growth is a life-long process that does not have a clear endpoint (Schaerlaekens, 1977: 175-176). Third, mastery of the Dutch morphological system takes considerably longer than five years. Although regular forms may have been internalized at 5;0, it is especially irregular forms, such as the past tense of strong verbs, that continue to be problematic until an advanced stage (Schaerlaekens, 1977: 176). Fourth, a Dutch-speaking child has many adult-like syntactic constructions at his or her disposal at 5;0, but there are a number of syntactic phenomena that do not appear until much later. Passive constructions, for example, are not correctly interpreted before the age of 5;0 to 7;0 and are typically absent in spontaneous productions of Dutch-speaking children until long after that. It has even been reported that children as old as 10;0 continue to have problems with passives (Schaerlaekens, 1977: 176-177, see 5.2.2). Finally, following the age of 5;0, children become more proficient communicators, which is partly reflected in the increased sophistication with which they can tell a story (see Garton & Pratt, 1989: 112; von Stutterheim, 2003). In sum, children's verbal repertoires may increasingly resemble the adult model from the age of 5;0 onwards, but a number of aspects continue to be problematic for children where mature native speakers do not experience difficulty.

On a more theoretical level, advanced L1 acquisition can be described in terms of residual optionality. Pre-theoretically, this notion has been interpreted as the existence of two or more variants of a given structure that are identical in meaning and also show clear correspondences in form (Sorace, 2003: 135). An example of optionality would be the two forms in (2a and b).

2a) *I told him that I liked him*
2b) *I told him I liked him*

Although optionality can be felt in all grammars, including mature ones, it is especially prevalent in developing systems, for example in L1 acquisition (Sorace, 2003: 138). It is here that standard and non-standard forms occur alongside each other for some time before one wins out. When one form is

predominantly used at the expense of the other, optionality is reduced to the low levels that characterize mature, native systems.

On the whole, advanced L1 acquisition may not be characterized by clearly distinguishable stages the way earlier linguistic development is, but a number of phenomena remain problematic across the board. In addition, the non-standard forms that occur at this advanced age are much more subtle than those attested in earlier stages of child language and can be analyzed in terms of residual optionality.

1.1.3 L1 attrition

Before we turn to the stages that characterize attrition, the phenomenon itself needs to be defined and here problems arise. Language attrition is generally understood to be the erosion of the L1 system that healthy emigrants experience after a prolonged stay in a foreign language environment (Köpke & Schmid, 2004: 1-2), but under what conditions it occurs exactly is less clear. It is even debatable if a language, once acquired, can ever be truly lost or whether what is measured instead constitutes a temporary inaccessibility (cf. Ammerlaan, 1996; Hulsen, 2000). Past attrition research has been concerned with the question what factors determine language erosion, but has obtained mixed results. Perhaps the reason for this lack of knowledge about attrition lies in the "extraordinary complexity and multi-facetedness of the phenomenon" (Köpke & Schmid, 2004: 1). In this study, attrition is taken to be language erosion in healthy adults after a change in their personal, linguistic situation. As the focus of this study is not psycholinguistic in nature, the question if this inaccessibility of the language system is permanent or not is less relevant.

There have been studies that have examined which factors can function as determinants in attrition. Intuitively, length of residence would appear to play an important role in the severity of attrition, but while some studies report that all attrition takes place five years after the emigration date, others claim that attrition still occurs as late as 15 years after the move (Hutz, 2004: 191-192). It has been suggested that length of time since onset of attrition only has an effect when there is very little or no contact with the L1 (de Bot, Gommans & Rossing, 1991: 94; Soesman, 1997: 190).

A second predictor that has been investigated in relation to attrition is education. The question here is whether emigrants with a higher educational

background are less prone to attrition than émigrés who have not received much education. Once again, previous work has obtained variable results, but it has been claimed that education is a factor that at least needs to be controlled for in attrition studies (cf. Köpke & Schmid, 2004: 10-11).

Related to the factor education is the hypothesis that "the more you know, the less you lose" (Hansen, 1999: 151), also known as the critical threshold or critical mass hypothesis (cf. Pan Alexander & Berko-Gleason, 1986; de Bot & Clyne, 1989). Although this hypothesis is generally only applied to L2 acquisition, given that mature L1 speakers are beyond the point of critical mass, it could also be used in relation to L1 attrition where speakers may fall beyond the critical threshold. Originally formulated by Neisser (1984), the basic tenet of this hypothesis is that knowledge that is better ingrained or linked to previously acquired knowledge is less vulnerable to attrition than isolated pieces of information (Murtagh, 2003: 30). It is often assumed that a higher level of education leads to knowledge becoming more ingrained, because there is more existing information to which new knowledge can be related. More work is needed to test the precise role of a critical mass in attrition, but previous results do suggest that it has some predictive power. On the whole, the variable results of previous attrition studies have resulted in a lack of a proper working definition of the phenomenon.

1.1.4 Patterns in L1 attrition

Many data-driven studies have investigated language decay in emigrant populations (see Schmid, 2004 for an overview). Preference has been expressed for studies that monitor the language use of émigrés over a stretch of time (i.e. are longitudinal) (Jaspaert et al., 1986: 39), but many investigations have taken a synchronic approach, where a group of potential attriters is compared to a group of control subjects (Köpke & Schmid, 2004: 4-5, see also 6.1.1.2). What all these studies have in common is the aim of uncovering developmental patterns in language loss. In other words, they seek to answer the question what is affected and when. In this respect, they greatly resemble acquisition projects (see 1.1). This focus has led to a hierarchy of language domains that are considered to be more and less susceptible to loss.

It is generally believed that the lexical domain is most susceptible to loss, probably because vocabulary acquisition is a lifelong process (see 1.1). It is in

the lexicon that L2 influences are most easily perceptible, in the form of code-switching (Köpke & Schmid, 2004b). Areas like morphology and syntax appear to be less prone to erosion and past studies have only found a piecemeal and gradual process of loss (Håkansson, 1995; Schmid, 2002, Hutz, 2004). The reason that is sometimes given for this tendency is that lexical items are not integrated into the structural system of language the way morphology and syntax are (Hutz, 2004: 193). The fate of phonetics and phonology in attrition has been somewhat underresearched, but preliminary findings from the related field of phonetics suggest that foreign accents can intrude upon the L1 (cf. Major, 1992).

It may be possible to formulate the order of loss in attrition by means of implicational hierarchies, similar to those suggested in acquisition studies, (1), where the different language areas affected by attrition are presented (see (3)). It should be indicated that this order has never been empirically substantiated.

3) phonetics < phonology < syntax < morphology < lexicon[2]

This hierarchy should be interpreted in the reverse direction to the implicational scales postulated for acquisition (see 1.1.1): the lexicon shows the earliest signs of decay, but phonology is generally not affected before lexical items, morphology and syntax have eroded to some extent. Similar implicational hierarchies can be invoked for each language area. For example, such a hierarchy could suggest that past tenses of weak verbs are less prone to attrition than past tense forms of strong verbs (see 4).

4) weak past tense forms < strong past tense forms

On a theoretical level, attrition might be described in terms of optionality, as was done for advanced stages of L1 acquisition (see 1.1.2). The variation patterns attested in attrition deviate from those found in mature, non-attrited grammars. Such optionality perspectives have been taken in the realm of near-native second language speakers (Sorace 2003, 2005), where it was found that near-native L2 users resemble mature native speakers to a great degree, but that

[2] This order is not uncontroversial. For example, there are some syntactic features that will attrite before specific morphological phenomena. The hierarchy is only included to illustrate how hierarchies could also play a role in attrition research.

their repertoires continuously include non-standard forms that native speakers do not normally use.

1.2 Explaining parallels between language acquisition and language attrition

With the growing interest in language attrition, holistic approaches have emerged that have attempted to draw parallels between language erosion and acquisition in order to discover similarities between the two processes (Berko-Gleason, 1982; Andersen, 1982). Such studies have looked at the question whether acquirers and attriters reveal a mirror symmetry in their language development. This approach has been justified on the basis that "language attrition is a special case of variation in the acquisition and use of a language or languages and can best be studied, described, documented, explained and understood within a framework that includes all other phenomena of language acquisition and use" (Andersen, 1982: 86). As mentioned before (see Introduction), they have not been able to reveal structural mirror symmetries.

The search for similarities alone is not enough, however. If parallels are found, they need to be interpreted in terms of causal mechanisms. It is highly unlikely that the order of acquisition itself provides a blueprint for the erosion sequences in attrition (Hansen, 1999: 150). Rather, similar constraints must be at work to shape both language learning and unlearning (Slobin, 1977: 188).

Perhaps the best way to investigate such constraints is by placing the regression hypothesis in a theoretical framework. Contrary to what has been claimed in the past (Schmid, 2002, Köpke & Schmid, 2004), the current notion of regression is pre-theoretical and can only gain explanatory power when placed in an existing framework. The question then is which linguistic theory will best suit the regression hypothesis. Only those theories that have arisen from observations on language systems in flux, notably language acquisition, are suitable for application in this context. In this study, the explanatory power of three such frameworks in relation to regression is explored: generative theories of language, usage-based accounts, and Dynamic Systems Theory.

1.2.1 Generative explanations for regression

Generative approaches seek to explain linguistic phenomena on the basis of the internal rule system of language. Its explanatory power in relation to regression therefore also lies in this domain.

1.2.1.1 Generative foundations

Within the generative framework, it is assumed that there is some innate component in language acquisition. In other words, human beings are born with some knowledge about language, an idea referred to as nativism. Nativism, in turn, was initiated as a reaction to empirical behaviorist arguments that language learning is no different from other learned behaviors. The empiricist claim was that language emerges through the use of general associative learning and induction and occurs through processes of punishment and reward (Skinner, 1957). The primary assumption of nativists, on the other hand, is that certain aspects of language are so abstract that they cannot be acquired through simple association and blind induction alone (Chomsky, 2004: 36). Moreover, children do things in their spontaneous language productions that they could not have inferred from the input. How children develop their linguistic systems on the basis of such insufficient input is then presented as the logical problem of language acquisition or of the poverty of the stimulus (Crain & Lillo-Martin, 1999: 54).

Rather than assuming association and induction, nativist approaches to language hold the view that humans possess an in-built language faculty that helps them acquire and develop language. This species-specific apparatus is termed the Language Acquisition Device (LAD) (Crain & Lillo-Martin, 1999: 54). The LAD builds on universal constraints that govern language learning in all children, regardless of their language background: Universal Grammar (UG), which is essentially a set of abstract principles that can be used to acquire any language that the child hears around him or her. The general principles spelled out by UG thus facilitate the setting of language-specific knowledge, a process that has been called parameter setting (Haegeman, 1991: 13-16). Parameters are set on the basis of markedness considerations; unmarked values will be preferred over marked values unless the available evidence (the input) suggests otherwise (Sharwood Smith & van Buren, 1991: 25).

For example, languages differ with respect to how they mark pronominal subjects. It is generally assumed that the unmarked way to indicate the subject is by means of morphological marking on the verb (null subjects), as is done in so-called pro-drop languages like Italian or Greek. Overt subjects present the marked counterpart and occur in languages like English. Children initially assume that subjects are not overtly expressed (see 5a) and only later do learners whose L1 does contain overt subjects change this parameter to [-pro-drop], expressed in the difference between (5a) and (5b) (taken from Sharwood Smith & van Buren, 1991: 25).

5a) *is beautiful*
5b) *it is beautiful*

In many ways, language is different from other human behaviors, and because of this, nativist accounts view language as unique and governed by specific areas in the brain whose sole function is language-related. In other words, the language module in the brain is assumed to be "informationally encapsulated" (Crain & Lillo-Martin, 1999: 62). In other words, it is autonomous, modular and separate from other cognitive functions (Crain & Lillo-Martin, 1999: 63). The modularity hypothesis further subdivides the language module into separate components; the lexicon is considered to be autonomous from the syntactic or morphological module. Each functions independently, although the output of one system can serve as input for the next (Crain & Lillo-Martin, 1999: 64).

1.2.1.2 The explanatory power of generativism in relation to regression

Generatively-oriented linguistic theories have also been invoked in domains other than L1 acquisition, most notably L2 acquisition. The main question guiding such research is whether the language varieties of L2 acquirers still build on universal properties (UG) or whether general cognitive learning mechanisms are at work here. This has resulted in an extensive debate between researchers who hold the view that UG governs L1 acquisition, but is not available for (adult) L2 learners on the one hand (Clahsen & Muysken, 1986; 1989) and those who do not believe that either L1 or L2 learners have access to innate principles on the other (Jordens, 1988a, 1988b, 1988c).

This debate could tentatively be extended to include attrition and the question whether the sequences observed in attrition are still in line with universal constraints or whether attrition results in wild or rogue grammars. UG-based models could then explain the potential mirror symmetries between acquisition and attrition in the sense that both are UG-constrained, which restricts the amount of variation that is found in both varieties. In other words, a UG hypothesis would predict that certain linguistic behavior will never be seen in acquisition, because it falls outside the confines of UG. Likewise, a number of patterns are not found in attrition, because they do not conform to what is universally allowed in natural languages. Such UG-based hypotheses have been regarded as more powerful than the regression hypothesis alone (McCormack, 2004: 245).

A second question that is often found in generative approaches to language loss is whether parameters, once set, can ever be reset to accommodate a new language. This question has been applied to L2 acquisition: if the view is maintained that L2 acquisition cannot take place in the same way as L1 acquisition (due to the unavailability of UG), then any resetting of parameters becomes unlikely (Sharwood Smith & van Buren, 1991: 26). By extension, the resetting of L1 parameters in attrition on the basis of the L2 is unlikely under this perspective (Sharwood Smith & van Buren, 1991: 26). Any study on parameter resetting in attrition should investigate if this occurs within the confines of UG or whether rogue grammars emerge that do not conform to UG principles (Sharwood Smith & van Buren, 1991: 27).

An important study in this respect is that by McCormack (2004) on the L2 attrition of English in 6 L1 Japanese speakers who had all attained high levels of English proficiency before attrition set in. In particular, this study looked at the use of binding principles that govern the relationship between reflexive pronouns (*himself, herself)* and their potential antecedents (McCormack, 2004: 243). What was attested was a change from a relatively stable system of local reflexive binding in English to a more fluctuating system where subjects sometimes looked for antecedents of reflexives outside the immediate clause (McCormack, 2004: 254). This led to a change in the interpretation of the antecedent in sentences such as (6).

6) *George$_i$ wanted Arnold$_j$ to buy himself$_{i/j}$ a watch*

Before attrition set in, subjects unambiguously took *Arnold* in (6) to be the antecedent of *himself*. After attrition had set in, however, *George* was also occasionally interpreted as the constituent to which *himself* referred.

It appears that subjects gradually lost the local governing category in English due to a lack of input and instead came to rely on their own L1 Japanese system of reflexive binding, which does allow non-local antecedents. This process might then be seen as an example of L2 parameter desetting in favor of the L1 parameters. However, the data showed that L1 transfer was not solely responsible for the observed change; subjects had a clear preference for accepting long-distance antecedents in nonfinite sentences and opted for local binding in the case of finite sentences (McCormack, 2004: 255). Thus, whereas subjects accepted long-distance antecedents in structures like (6), they did not do so in the case of (7).

7) *John$_i$ knew the dog$_j$ bit himself$_{i/j}$ on the leg*

Neither English nor Japanese uses the factor [±finiteness] in the assignment of antecedents to reflexive pronouns, but despite being ungrammatical in both L1 and L2, long-distance antecedents of the kind exemplified in (7) are still UG-sanctioned and found in languages such as Russian (McCormack, 2004: 256). In other words, UG was found to underlie both (L1) acquisition and (L2) attrition, resulting in parallels between the two (see also Gürel, 2004).

Other generatively-oriented studies (e.g. Tsimpli, Sorace, Heycock & Filiaci, 2004) have looked at additional constraints like interpretable and uninterpretable features. Purely syntactic, parametric choices (autonomous syntax) are referred to as uninterpretable features, while features that rely on an interaction between syntax and a semantic component are called interpretable features. It is likely that the category of interpretable features is generally also acquired later than uninterpretable features. Tsimpli et al. (2004) focused on the use of null and overt subjects in attriters of L1 Italian and Greek, both pro-drop languages, in an L2 English environment, the latter being a non-pro-drop language. The prediction, borne out by the data, was that the parameter [±pro-drop] would not be lost, but that knowledge about the interpretation of null and overt subjects, being non-parametric in nature and governed on the interface between the syntactic domain and its semantic interpretation (the so-called LF interface) might be lost (Tsimpli et al., 2004: 264). Tsimpli et al.

(2004) thus showed how parallels between acquisition and attrition can be explained on the basis of the formal notion of interpretable versus non-interpretable features.

Thus, the main strength of generative theories in relation to regression lies in the hypothesis that both acquisition and attrition are guided by Universal Grammar. In addition, constraints like parameter (re)setting or [±interpretable features] might also have an impact.

1.2.1.3 Problems of generativism in relation to regression

Until relatively recently, UG approaches were unidirectional in the sense that they were only invoked in relation to language acquisition and were unable to deal with phenomena related to language unlearning (Herdina & Jessner, 2002: 93). Perhaps because of this, problems arise when generative viewpoints are used as explanations for parallels between acquisition and attrition.

The first of these is that UG is hard to operationalize. In other words, there is no agreed set of principles that characterize UG (Tomasello, 2004). The range of UG-sanctioned material is vast and to hypothesize that the outcome of acquisition and attrition is still governed by UG rather than resulting in rogue or wild grammars lacks precision. As a consequence, UG-constraints cannot lead to specific predictions about regression (MacWhinney, 1998: 201).

Related to that is the problem of parameter setting. As generative theory views parameters as either set or unset, it cannot account for partial achievement. Nativism does not leave room for a gradual setting of parameters, but evidence about advanced developments in L1 acquisition and attrition suggests subtle optionality where the standard forms are mostly used, but non-standard forms continue to be employed as well.

On a more general level, a focus on language-internal properties found in formalist approaches to language, including generativism, may lose sight of external variables that have an effect on language development. Language acquisition and language attrition do not occur in a vacuum and extralinguistic variables need to be taken into account because they might explain parallels and divergences between language learning and unlearning. Because of these problems, many researchers have tried to look for other explanations of the parallels between acquisition and attrition than genetically wired modules.

1.2.2 Usage-based explanations for regression

Regression ultimately depends on connected layers in the representation of linguistic knowledge, as illustrated by the implicational hierarchies in (1) and (2). Thus, there must be connections between different pieces of linguistic knowledge that, on a cognitive level, are more consistent with a single process theory of acquisition of the type offered by usage-based approaches to language (see Tomasello, 2003) than generativist accounts of language, which view the language faculty as autonomous and consisting of modular subsystems like phonology, syntax, morphology and the lexicon (1.2.1.1).

An additional advantage of usage-based approaches is that they build on language input and therefore do not treat language acquisition and attrition as isolated phenomena. Furthermore, a usage-based interpretation of regression is consistent with the ideas of the Prague School of Linguistics, to which Roman Jakobson was affiliated. Jakobson's ideas were also based on functional grounds: "the Praguians formulated a complex approach to the study of language without losing interest in the use of language, of its function in communication, of the psychological reality of language and the relationship between language and the mind" (Luelsdorff, 1994: 4).

1.2.2.1 Usage-based foundations

When applied to language acquisition, usage-based accounts are referred to as constructivist approaches. Constructivists hold the view that children build their language systems not because they are innately endowed with a language acquisition device but as a function of the input they receive. Constructivist ideas were initially formulated as a reaction to the prevailing nativist accounts of language acquisition. From a usage-based perspective, children do come equipped for the acquisition task, but not along the lines of LAD; language learning is considered to be the outcome of interacting cognitive and social-cultural skills that can be summarized under two headers: intention reading (globally understood as 'theory of mind') and pattern-finding (or categorization) (Tomasello, 2003: 3-4). In other words, children engage in attention-sharing activities with other persons, also in relation to objects and events outside the scope of the discourse, and they try to form categories on the basis of objects and events that show similarities. The skills subsumed under both these headers are not considered to be unique to humans: non-human primates typically show

these abilities as well, but it is only when they are applied to the symbolic use of language that novel characteristics, which are species-specific, emerge (Tomasello, 2003: 4).

In particular, three usage-based constructs can help to explain parallels between language acquisition and language attrition: construction-based language development, analogy, and entrenchment and preemption.

Construction-based language development

Construction-based language development in acquisition

Usage-based approaches to acquisition heavily build on construction-based, or item-based, language development. Once children move beyond holophrases and into the two-word stage (see 1.1.1), their multi-word productions begin to show systematicity very quickly, according to constructivists: one word or phrase typically structures the utterance in the sense that it determines the speech act (*want* indicates a wish and *where's* introduces a question) and the other elements in the utterance fill in the slots that are created in this way, resulting in utterances like *want juice* and *where's doggie?* On a more abstract level, such slot-and-frame constructions can be represented as *want-X* or *where's-X?* Early representations like these are referred to as pivot schemas (Tomasello, 2003: 114).

Although slot-and-frame representations are schematic, they do not contain any syntax, as is reflected in the fact that they are devoid of any overt grammatical marking of syntactic participant roles, either through word order or morphology. This changes when children move to the next stage, but although overt syntactic or morphological marking now does indicate the role of each participant in the discourse, this marking is typically verb-specific and depends on how the child has heard a certain verb being used before (Tomasello, 2003: 117). For example, English-speaking children may say *he open-s it,* but that does not automatically mean that they can do the same for a verb like *close;* it is perfectly possible that forms like *he open-s it* and *he close-Ø it* will continue to occur alongside each other for some time. Because the first instances of grammatical marking typically revolve around a single verb, they have been referred to as arising from construction or item-based learning or, more specifically, as verb islands. Specific verbs (verb islands) may be used in

only one instance, exemplified in (8) or can have as many as four occurrences (as in 9a-d) (Tomasello, 2003: 117).

8) cut–X
9a) draw-X
9b) draw-X-on-X
9c) draw-X-for-X
9d) X-draw on-X

Children thus build their item-based structures by making use of their cognitive and social-cognitive skills on the basis of what they hear being used around them (Tomasello, 2003: 122).

The explanatory power of construction-based language development in relation to regression

Generally, item-based language development can be used to capture the parallels between acquisition and attrition, because both attrition and acquisition, at least in its advanced stages, do not affect the whole language system. Instead, linguistic resources appear to be affected on an item-specific basis (Jarvis, 2003: 99). More specifically, the reduced language systems that could potentially characterize both advanced L1 acquisition and L1 attrition, as opposed to fully mature, non-attrited systems, might be explained in terms of slots and frames. The frames may be intact, but the specific items that can be inserted into the frames may be a reduced set of those mature, non-attrited speakers have at their disposal. It is likely that highly frequent items, heard many times in the input, stand a better chance of being inserted into the slots than sporadic constructions.

Analogy

Analogy in acquisition

Intention reading and pattern-finding skills together are taken to be the most important constructs in usage-based acquisition theories (1.2.2.1). They comprise the general ability to group together objects and events that are perceptually and conceptually similar in form (Tomasello, 2003: 4). In relation

to language this process is referred to as analogy and can help language users see similarities across different items or constructions.

Drawing analogies is essentially the next step in the acquisition process after item-based learning and typically begins after the age of 3;0. It is at this stage that children start transferring item-specific knowledge to novel contexts to create abstract linguistic structures, such as transitives, intransitives, causatives and resultatives. Such generalizations are most likely made on the basis of a collection of item-based structures. Categorization or analogy processes also rely on schemas, but these are more abstract than the ones underlying item-based learning. Whereas item-based schemas are presented in (10a-b), (11a-b) illustrate the format of analogy schemas (Tomasello, 2003: 174).

10a) John hugs Mary
10b) Mary kicks John
11a) A hugs B
11b) M kicks N

The question then is why children only start drawing analogies from the age of 3;0 and why this ability does not emerge before that time. It has been suggested that children need a critical amount of raw material (exemplars) on which to base abstractions (Tomasello, 2003: 242). The exact nature of such a critical threshold is currently unknown; it is not certain how many verb types and tokens are needed to build abstractions (Marchman & Bates, 1994).

Another question is why children draw the analogies that they do. On the basis of the exemplars at their disposal they could arrive at potentially any generalization, but the outcome of the categorization process is always conventional in the input language. Such constrained creativity presents problems for language theories. Under usage-based approaches, children build on the constructions they hear around them and will adjust their generalizations accordingly. Generative approaches to acquisition, on the other hand, propose that all L1 language acquisition is UG-governed, thus limiting the kind of generalizations the child can come up with (1.2.1.1). Both approaches thus seek the answer in the fact that child language will mostly resemble the adult model (Tomasello, 2003: 178).

Studies that have actually tested how children draw analogies have mainly used nonce designs in order to test productive rule application, as the risk of inflecting existing items is that children will show an unproductive use of morphology. In other words, they might have memorized such items as chunks (Tomasello, 2003: 177). As it is relatively easy to create isolated nonsense items to be inflected, the focus on analogy-based studies has been on morphology (Berko, 1958). That does not mean that pattern-finding skills do not also guide syntactic language development (Tomasello, 2003: 145). For example, in a study that examined analogy in passive constructions (Brooks & Tomasello, 1999a), it was found that 90% of a population sample of Anglophone children between 3;0 and 3;5 were able to form passives of novel verbs after two 30-minute training sessions.

The explanatory power of analogy in relation to regression

The most crucial issue is how the construct of analogy can account for potential parallels between advanced L1 acquisition and attrition, as opposed to mature, non-eroded grammars. It may be the case that certain late-acquired structures have not yet attained a critical level of exemplars, at least in certain contexts, in advanced acquisition and therefore cannot be adequately generalized to novel contexts. Similarly, a lack of L1 input in attrition might lead to a drop below the critical threshold, especially in the case of those features that are relatively infrequent. A lack of exemplars in attrition may have the reverse effect of losing a previously acquired feature. For example, Dutch passives are typically formed on the basis of transitive verbs (e.g. *hij wordt gewassen* – 'he is washed'). Less common, but still possible, are passive forms of intransitive verbs (e.g. *er wordt gedanst,* lit. there is being danced – 'people are dancing'). The latter category is acquired relatively late, possible because the items it comprises are not frequent in the input (see 5.2.2) and abstractions cannot be easily formed on the basis of exemplars. In short, when analogy is used to explain regression patterns, explanations must be sought in an insufficient mass of exemplars.

Entrenchment and preemption

Entrenchment and preemption in acquisition

According to constructivists, constraints on generalizations (1.2.2.3) also stem from other sources; the more a child hears a certain verb in a particular construction, the less likely he or she is to use that same verb in other contexts, because it has become so ingrained in that particular construction as a function of frequency. This process is known as entrenchment (Tomasello, 2003: 180). On the other hand, if adults use alternatives for that verb in ways that are communicatively similar, then the child may infer that the generalization he or she has made so far is not conventional (Tomasello, 2003: 178). It is this process that preempts the generalization and is therefore referred to as preemption (Tomasello, 2003: 178). For example, an existing (non-standard) generalization a child might have made is that the verb *disappear* is used in simple transitive constructions like *He disappeared the rabbit.* However, if the child becomes aware of the fact that adults structurally use constructions such as *He made the rabbit disappear,* he or she may infer that the generalization was inappropriate and subsequently preempts it. This in itself provides evidence for the fact that adult recasts of child utterances are important in the acquisition process and contradicts the generative assumption that the quality of child-directed speech is insufficient for acquisition purposes by definition (see 1.2.1.1). Consider (12) (Tomasello, 2003: 180).

12) CHILD: *She giggled me*
ADULT: *Oh! She made you giggle, did she?*

On the basis of these assumptions it could be argued that entrenchment essentially depends on frequency and preemption works on the basis of functionality. Collectively, both processes can be considered as a single process of competition (Tomasello: 2003: 300). It is often the case, however, that entrenchment and preemption complement each other: a verb that is highly entrenched in one context is not likely to be generalized to others and an alternative verb is used instead (Tomasello, 2003: 178).

Although entrenchment is operative from very early on in child language, preemption does not come into play until much later, because children initially do not have many alternative (verb) forms at their disposal. It has been shown

that children under the age of 4;6 are insensitive to preemption attempts (Tomasello, 2003: 180). In other words, despite such recasts as that exemplified in (12) children do not alter their established generalizations. They only come to change their generalizations very gradually and on the basis of the input. In other words, "just as utterance-level constructions become more abstract only gradually and in a piecemeal fashion, so also are they constrained only gradually and in a piecemeal fashion" (Tomasello, 2003: 180).

The explanatory power of entrenchment and preemption in relation to regression

At first glance, it would appear that the notion of entrenchment cannot be united with the regression hypothesis, because entrenchment implies that it is not what is learned first that is retained in attrition, but what is learned best. This assumption, which competes with the regression hypothesis to some degree, has been captured in what has come to be known as Pitres' rule (1895, see Introduction). In many cases, however, both versions of the regression hypothesis will tend to coincide, as features that are acquired first also tend to be entrenched due to the frequency with which they are used, also in the input.

Furthermore, entrenchment and preemption are treated as constraints in constructivist accounts. They could be included in the regression hypothesis in the sense that the general tendency is for early acquired features to be robust in attrition, but additional constraints like entrenchment may override this tendency.

Not only do the notions of entrenchment and preemption counter regression, they can also have explanatory power in relation to the hypothesis. First, entrenched features are likely to have been completely acquired in advanced stages of acquisition. Similarly, attriters are not likely to lose entrenched features.

Preemption can also have explanatory power in relation to regression. Preemption plays a role in more advanced stages of acquisition, because older children tend to be more sensitive to those parts of the input that contradict established entrenchments (see 1.2.2.6). In attrition, L2-based alternatives may be introduced in the L1 and can subsequently preempt existing generalizations in the L1. For example, Dutch émigrés in Anglophone L2 environments may experience problems with respect to word order in subordinate clauses. While

Dutch places the verb at the end of subclauses, English verbs typically follow the subject in such clauses (also see 5.4.3). Due to influence from English, Dutch émigrés might analyze a sentence such as (13a) as correct, while (13b) is in fact the standard Dutch structure.

13a) **omdat hij is wakker*
'because he is awake'
13b) *omdat hij wakker is*
because he awake is
'because he is awake'

This new generalization might itself become entrenched and cannot be preempted on the basis of input from Dutch, because this is generally not available.

Whether the three constructs of construction-based language development, analogy and entrenchment/preemption combined provide enough explanatory power with respect to acquisition has been questioned in the past (Tomasello, 2003: 181). Whether they can have any value in relation to regression likewise remains to be seen.

1.2.3 Dynamic Systems Theory

In recent years, chaos/complexity theory has been applied to language. This theory can be regarded as an extension of usage-based approaches in that it is concerned with a description of the developmental paths in acquisition but takes the view that systems in flux, such as acquisition but also attrition, show more intricate, complex and even unpredictable sequences than prevalent linear approaches postulate (de Bot, Lowie & Verspoor, forthc.: 2). This theory is also known as Dynamic Systems Theory (DST for short). Like usage-based approaches, Dynamic Systems Theory considers language development as a single-process phenomenon. However, unlike constructivism, which focuses mainly on acquisition, DST moves beyond that to include other unstable systems. In this respect, it views language acquisition and language attrition as two sides of the same coin and as occurring on the continuum of lifelong language development.

Dynamic Systems Theory has its origin in the natural sciences and mathematics. In its original formulation, the concepts that underlie it can be roughly divided into four categories:

- non-linearity
- sensitivity to initial conditions
- self-organisatory properties
- attractor states

Non-linearity

Complex systems consist of many individual components, but the behavior of a complex system is not simply the sum of its parts. Instead, all components are interconnected and interact in ways that are non-additive. In other words, the ways a complex system behaves emerge from the interaction of its components (Larsen-Freeman, 1997: 143). Because all variables interact in a way that is non-predictable from the input, their combined outcome cannot be precisely calculated either. Consequently, development never follows a straight line, but is non-linear in nature: there is a non-linear link between the size of the individual variables and their combined effects through time (de Bot et al., forthc.: 4).

Sensitivity to initial conditions

Seemingly insignificant differences in initial states (the input) can transform into dramatic differences in the output. This disproportionate relation, which again pertains to non-linearity, follows from the dynamicity of the system and has been called the butterfly effect; in the natural sciences it has been postulated that a tiny detail, such as a butterfly fluttering its wings in a distant part of the world, may have large consequences in another part of the world (Larsen-Freeman, 1997: 144).

Self-organisatory properties

The seemingly chaotic, non-linear transitions that Dynamic Systems go through are guided by an internal drive towards a state of order and structure. In order to arrive at such a point, the system undergoes spontaneous restructuring. A

central issue in complexity science is how order arises through self-organisatory principles in nature (Larsen-Freeman, 1997: 144). At the same time, Dynamic Systems are adaptive. In other words, they respond to input conditions (Larsen-Freeman, 1997: 145), which means that internal restructuring occurs in interaction with external variables in the environment. Because Dynamic Systems are constantly in flux, they show variation with respect to the type of input to which they are sensitive: systems may be sensitive to specific input at any given time but, as they change, they become sensitive to other types of input (de Bot et al., forthc.: 5).

Attractor states

Finally, the search for an equilibrium or new order is guided by so-called attractor states. These form a pattern to which Dynamic Systems are typically drawn (Larsen-Freeman, 1997: 145). An example of attractor states is formed by the two ways in which horses run. They can either trot or gallop, but do not have intermittent ways of running (de Bot et al., forthc.: 4). Attractor states may be the preferred state at any given time, although they are not fixed either. Depending on the strength of the attraction, the system may move on to the next attractor state. The changes in between attractions are typically the most dramatic (Herdina & Jessner, 2002: 112).

Thus, several key notions underlie Dynamic Systems and cause them to be in a constant state of flux. Crucially, development occurs through internal reorganization in interaction with or triggered by the environment.

1.2.3.1 Language as a Dynamic System

Recent studies on unstable language systems have expressed an interest in viewing such in-flux inventories as Dynamic Systems. Dynamic Systems Theory has now been applied in second language acquisition (Larsen-Freeman, 1997; de Bot et al., forthc.), multilingualism (Herdina & Jessner, 2002) and also attrition (de Bot, forthc.). To view such deviant language repertoires as Dynamic Systems is to recognize that they are in constant flux, affected by system-internal properties in interaction with the environment in a search for a natural steady state. All the key notions of Dynamic Systems outlined in 1.2.3 pertain to language as well, as language is a complex system that consists of subsystems like the lexicon, phonology, morphology and syntax (Larsen-

Freeman, 1997: 149). In addition, all these modules are interconnected and a change in one of them may trigger a subsequent alteration in another (Larsen-Freeman, 1997: 149). For example, as soon as morphological finiteness has been acquired by Dutch-speaking children, they are also in a position to reanalyze word order and can see that the finite verb is typically placed in second position, but that the non-finite part of the verb phrase occurs sentence-finally (see 5.3.2).

The non-linearity aspect that underlies Dynamic Systems is also reflected in language. Diachronic language changes, for example, are typically non-linear in nature. New lexical items may enter the language in a non-incremental fashion and in ways that are not always predictable, because of the interaction between system-internal properties and external variables, such as prestige (Larsen-Freeman, 1997: 147). In language acquisition, too, non-linear developments are perceived. This observation counters what has been claimed in previous studies on acquisition orders have claimed, most notably morpheme order studies in both L1 acquisition (Brown, 1973) and L2 acquisition (Dulay & Burt, 1974). These studies found linear steps of development that remained the same across various studies and were thus claimed to be highly predictable. However, closer inspection reveals that the same order in consecutive morpheme studies was only achieved through a partial lumping of morphemes (de Bot et al., forthc.: 22). For example, the plural morpheme *–s* and the possessive marker *-'s* occasionally had to be merged for the orders of acquisition to remain the same across studies. In fact, no two acquisition studies have produced exactly the same order of language learning (Hansen, Harley & Ritter, 2000: 6).

In addition, language is sensitive to initial conditions. Some languages are mainly analytic in nature (and have a fixed word order), while others can be analyzed as synthetic and therefore mainly use morphology to indicate 'who did what to whom'. The manner in which syntactic roles are expressed determines the way in which children acquire language. For example, learners of English (analytic) and Russian (synthetic) generally go through very distinct phases in their language acquisition (Gagarnia & Gülzo, 2006).

Language has also been known to settle into attractor states. Any language is generally analyzed as a collaborative effort on the part of its speakers and any changes in the system are therefore emergent by definition. The widely quoted sociolinguistic idea that "the act of playing the game has a way of changing the

rules" (Diller, 1995: 116 in Larsen-Freeman, 1997: 148) suggests that language grows and organizes itself in a bottom-up way, much along the lines of the constructivist view of the process of language acquisition.

Perhaps a good example to illustrate the dynamic nature of language is the longitudinal work on the adult L2 acquisition of individuals with different language backgrounds in likewise different L2 environments (Klein & Perdue, 1992: 5). The L1s in question were Punjabi, Italian, Turkish, Arabic, Spanish and Finnish and the target languages were English, German, Dutch, French and Swedish, respectively (Klein & Perdue, 1992: 5). After a stay of some time in the L2 setting, all subjects had arrived at a "relatively stable and natural equilibrium between semantic, pragmatic and phrasal constraints" that served basic communicative needs (Klein & Perdue, 1992: 315). This equilibrium has been termed the *Basic Variety* (cf. Jordens, 1997). Although it was seemingly unnecessary to move beyond this basic language system, changes were detected, which were ascribed to an interaction between system-internal, self-organisatory principles and external factors: on the one hand, internal restructuring took place due to the perceived inadequacy of the Basic Variety. On the other hand, a constant influx of L2 stimuli remained, leading to externally-induced change. The language system was highly restrictive in nature and ran into conflict with growing communicative needs. There was thus competition between 'keeping things simple' and 'being communicatively adequate', eventually leading to L2 progress (Klein & Perdue, 1992: 315). Thus, the complexity of the system in this case is not only affected by the different subcomponents, like morphology, syntax, and the lexicon, but also through the coexistence of two language systems. In addition, the difference in initial states in individual language learners resulted in differential outcomes that were not always found to be predictable at the outset (cf. Klein & Perdue, 1992). Third, system-internal properties were found to interact with external pressures and the combined effect resulted in language change. Finally, the Basic Variety can itself be called an attractor state, which proved to be unstable when the competition became stronger. In short, the Basic Variety can be seen as a Dynamic System of language.

1.2.3.2 The explanatory power of Dynamic Systems Theory in relation to regression

Within Dynamic Systems approaches, acquisition and attrition are seen as inseparable phenomena that cannot be studied in isolation (Jessner, 2003: 237; Herdina & Jessner, 2002: 106). Instead, all language users go through phases of growth and decline throughout their lives (de Bot, forthc.: 11). Thus, acquisition and attrition are not so much identifiable states, but present two kinds of development along a continuum (Herdina & Jessner, 2002: 125).

If not enough time and effort are spent on the retention of a language, decline, which constitutes the inverse of the process of acquisition, is likely to occur (Herdina & Jessner 2002: 91). Both language growth and decline are characterized by competition between cognitive resources, and by a system that responds to the availability of those resources in a self-organisatory way in order to arrive at an equilibrium. A system may be very reluctant to change from such a steady state, which is why initial changes in acquisition and attrition tend to be very slow. However, one change sets another in motion, resulting in an acceleration of changes. Finally, the system settles into another attractor state again, which is reflected in the gradual leveling off of the change. This development curve has also been observed in diachronic linguistics (Aitchison, 1991: 94). Acquisition and attrition are mirror processes in this respect, as can be seen when comparing Fig. 1.1 and Fig. 1.2 (adapted from Herdina & Jessner, 2002: 90).

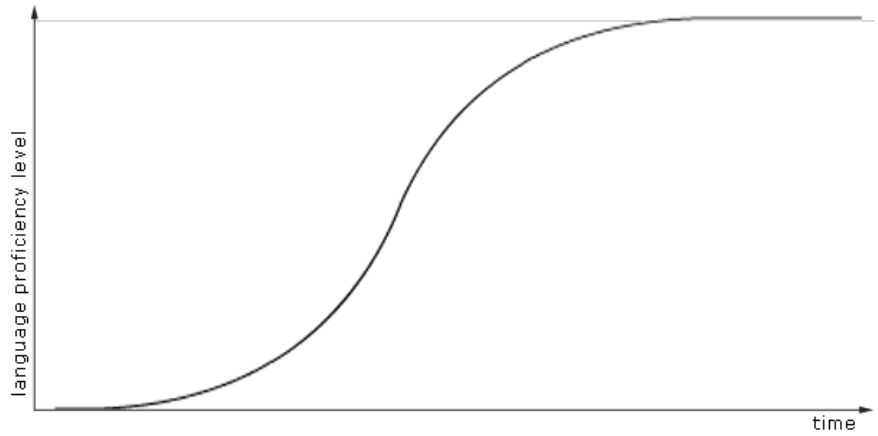

Fig. 1.1: Language growth curve

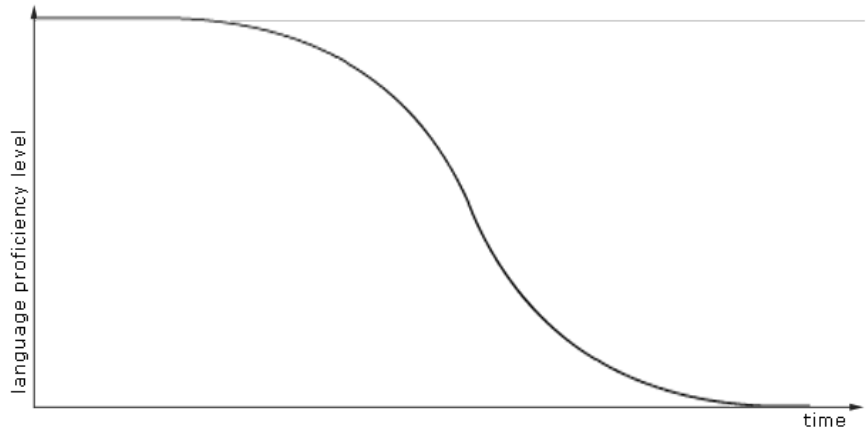

Fig. 1.2: Language decline curve

Although language growth and decline are both guided by competition principles in a limited cognitive system, the source of such competition may be very different for both. Whereas competition in acquisition tends to stem from systems that have not yet fully matured, in attrition it is more likely that two languages are competing for available memory space. It has been claimed that the natural state for any language user is monolingualism[3] (Herdina & Jessner, 2002: 94), which implies that cognitive resources are also geared towards the maintenance of one language and that competition arises when two language systems are present.

On another level, competition in both acquisition and attrition arises from an interplay of both system-internal resources and system-external resources: internal resources, such as the capacity to learn (intelligence), time and motivational resources interact with external variables, such as language input resources (e.g. books, TV and other language speakers). These resources all have one thing in common when they are applied to the unstable processes of acquisition and attrition: they are limited. Their constant interplay affects the outcome of both language growth and decline, but resources can also be used as compensatory strategies. For example, effort on the part of the speaker can

[3] This claim is not without its problems as the majority of the world's population is in fact multilingual and what exactly is meant by 'natural' is not unequivocally clear either.

compensate for lack of time, and motivation can compensate for lack of linguistic input from the environment (de Bot et al., forthc.: 12).

The application of Dynamic Systems Theory to account for the parallels between language acquirers and attriters appears to be justified on the grounds that "Jakobson's idea behind regression is that the system is always striving for some kind of balance of its elements. The restoration of the equilibrium is effected by some change in the system" (Daneš, 1987: 27). On the whole, viewing language as dynamic can account for parallels between acquisition and attrition, because both are governed by similar constraints and competition. At the same time, however, exceptions to these tendencies are not problematic within Dynamic Systems Theory, because all the variables involved may interact in ways that are non-predictable. All this does not mean that DST is a completely unproblematic theory. Because of its relatively recent application to language, it tends to be treated as a theory of nearly everything (Larsen-Freeman, 1997: 152), but more work is needed before it can function as a holistic theoretical framework with respect to language change and development.

1.3 Summary

This chapter has explored patterns in L1 acquisition, including advanced L1 development, and L1 attrition. It has elaborated the concept of implicational hierarchies that reflect the layering and interdependency between different sequences in both language learning and unlearning. In addition, various explanations have been examined for potential parallels between acquisition and attrition, starting with generative explanations based on language-internal properties. While such theories may account for some similarities, they fail to provide testable hypotheses about the processes of growth and decline and, in addition, cannot deal with the partial achievement that characterizes acquisition and attrition or the influence external variables have been found to have on both phenomena. This led to an examination of usage-based explanations for regression. In particular, the three notions of construction-based language development, analogy and entrenchment/preemption were found to offer explanations for any potential similarities that might exist. Finally, another theory was reviewed that also has its foundations in functional explanations: Dynamic Systems Theory. The main advantage of DST is that it can account

for parallels on the basis of such underlying constructs as non-linearity or attractor states, while also allowing room for exceptions, since the interaction of various variables may result in non-additive outcomes. In other words, the language system as a whole is not the sum of its parts, just as the bilingual system present in attrition is not the sum of two monolingual inventories. Collectively, these foundations form the pillar upon which the present study rests.

Chapter 2

Morphological and Morpho-syntactic Preliminaries

In order to place the following chapters on the acquisition and attrition of Dutch noun and verb morphology as well as Dutch morpho-syntax in a broader framework, this preliminary chapter presents an overview of the notions that underlie the next three chapters.

The study of morphology has been called essential in the study of language. The domain of morphology may be the word, but it can indicate grammatical relationships, for example by means of agreement, that pertain to the phrase level or beyond (Clark, 1998: 375). As the focus of the present study is on partly morphology (see Introduction), a clear understanding of its most important constructs is essential.

The first part of this chapter seeks to clarify morphological notions like inflection and derivation, but also inherent versus contextual inflection. Following that discussion, the distinction between internally and externally induced change is introduced, before a review of previous work that has considered both these possibilities in relation to attrition. This chapter then concludes with an overview of the organization of the three morpho-syntax chapters that are to follow.

2.1 Inflection and derivation

Traditional notions of morphology have carefully separated inflection from derivation. Inflectional morphology is defined as indicating the grammatical function of words, but is considered to leave the meaning of lexical items and their word class intact. Derivation, on the other hand, does result in new words with new meanings. As derivation also typically changes the word class, it is often referred to as word formation (Beard, 1998: 44).

In the light of this dichotomy, a morphological phenomenon like agentive formation is seen as derivational in nature: the change from *sing* to *singer* constitutes the formation of a new word that is different in meaning and crosses the boundary from a verb to a noun. A feature like plural formation, by

contrast, does not result in a new word or word class; *singer* and *singers* have the same semantic content (Stump, 1998: 15).

More recent research has shown that there are fundamental problems with the traditional separation of inflection and derivation, as there are notable exceptions to the classic division. For example, derivation does not always result in a different word class; the shift from *read* to *reread* may change the meaning of the word, but is category-preserving (Stump, 1998: 15). In other cases, word formation processes may not even change the meaning of the word. An example is diminutive formation; a diminutive does not bring about a change in referential category, but only changes its sense (Beard, 1998: 46). The Dutch word *boot* ('boat'), for instance, forms its diminutive in *boot-je*. Both forms refer to 'boat', but the choice of form depends on the judgments and attitudes of the speaker. For instance, he or she can refer to the boat with endearment or contempt and therefore may wish to use a diminutive form (see also 3.5.1). It is exceptions like these that have led to the postulation of a derivation-inflection interface (Beard, 1998: 44-46).

The main focus of this study lies on inflection, but there are also derivational phenomena to be investigated. In particular, this study investigates inflectional cases such as plural forms, adjectival morphology and simple present tense, but categories like agentives or diminutives, which are also included in this study, are derivational in nature. Such a combination of both inflection and derivation appears warranted on the basis of the inflection-derivation interface.

2.2 Inherent inflection and contextual inflection

Within inflectional morphology, a further subdivision is often made: that between inherent and contextual inflection. Inherent inflection operates independently of context. It provides morphological distinctions regardless of the surrounding syntactic configuration. Contextual inflection, by contrast, is only added when it is required by the syntactic context, but does not provide additional information (Booij, 2002: 18).

A good example of a morphological phenomenon that displays both inherent and contextual inflection is adjective formation in Dutch. Adjectives of degree, comparatives and superlatives, are inherently inflected: *leuk – leuk-er – leuk-st* ('nice – nicer – nicest'). On the other hand, pronominal Dutch

adjectives receive a schwa or zero ending, depending on whether the noun they modify has common or neuter gender and on whether it has definite or indefinite reference. We thus find *het leuk-e meisje* ('the nice girl'), but *een leuk-Ø meisje* ('a nice girl'). This phenomenon, which forms a prime example of contextual inflection, is discussed more elaborately in 3.4.1.

Inherent and contextual inflections are also present in verb morphology. Whereas Dutch verbs display inherent tense inflection (either present or past), they also indicate person and number agreement through contextual inflection (see 4.1.1).

2.3 Internally and externally-induced change

Acquisition is characterized by an internal restructuring of the language system, although it may be triggered by evidence from the language input. In attrition, too, two principal forces are at work to shape the morphological and syntactic system. The first of these corresponds to principles that guide language acquisition and is typically denoted by terms like simplification, regularization and generalization. Collectively, these constructs can be summarized under the heading of internally-induced change (Seliger & Vago, 1991: 10). The second force that governs language attrition is L2 influence. Changes that are brought about by a second language have been referred to as transfer, interference, cross-linguistic influence or, collectively, externally-induced changes (Seliger & Vago, 1991: 7). Both mechanisms will be briefly discussed.

2.3.1 Internally-induced change

Internally-induced change manifests itself most profoundly in the morphological and morpho-phonemic domain (Seliger & Vago, 1991: 10). Traditionally, internal restructuring has been equated with generative approaches to language, as the modification of linguistic form is considered to be motivated by universal constraints. Another framework that is frequently employed to explain internal remodeling is that of markedness considerations, marked forms being more prone to linguistic change (Seliger & Vago, 1991: 10).

Internal reorganization can occur in different forms. First, there is analogical leveling where marked features are replaced by unmarked ones (Seliger & Vago, 1991: 10). This is exemplified in regularization of irregular

plural forms. In Dutch, for instance, the plural of *schoonheid* ('beauty') is *schoonheden,* but might be regularized to *schoonheid-en* (see also 3.1.1). A second form of internal restructuring is paradigmatic leveling, which constitutes a reduction of allomorphs (Seliger & Vago, 1991: 11). For example, Dutch has five diminutive allomorphs. Paradigmatic leveling might result in a reduction to only one or two allomorphs, most likely the more frequent ones (see 3.5.1). Third, there is category leveling, where the number of conceptual categories is reduced (Seliger & Vago, 1991: 11). For example, the English categories of plural inflection *–s* and possessive inflection *–'s* might initially not be distinguished in child language acquisition, but only become separated in the course of language development. Conversely, attrition may show a tendency to merge categories that had previously been distinguished. Finally, internal reorganization might take the form of category switch, which is related to category leveling. Here, however, a category is maintained conceptually, but a different linguistic form is now used to express it. Most commonly, category switch is characterized by a replacement of synthetic forms by analytic ones (Seliger & Vago, 1991: 11). Instead of saying *waitress* speakers may express this as *the girl who serves at the restaurant.*

Internally-induced morphological change is often equated with the regression hypothesis, because it is the only way to explain the mirror symmetry between language acquisition and language attrition. Such similarities cannot plausibly be explained on the basis of L2 influence, because the latter only pertains to attrition.

2.3.2 Externally-induced change

Attrition, but not acquisition, may furthermore be characterized by externally-induced change. In fact, it has been claimed that the beginning of attrition can be traced to those stages where speakers reach advanced stages of bilingualism or L2 acquisition (Seliger & Vago, 1991: 4). L2 influence provides an alternative to regression: if the regression hypothesis is not able to explain the modifications in attriters, then L2 influence might. Externally-induced change pertains to all language domains and is not confined to morphology as in internal change, but is also clearly felt in the syntactic domain. Whatever realm it is applied to, research on L2 influence is necessarily concerned with contrastive approaches to language. Where the L1 and L2 diverge, changes may

be expected that can be classified along the lines of rule generalization: an L2 rule is applied in the L1 (Seliger & Vago, 1991: 7).

To illustrate this, it is possible to look at word order in subordinate clauses in L1 Dutch within an L2 English context. Whereas the verb is placed at the end of the sentence in Dutch subclauses, English verbs continue to follow the subject and therefore typically occur in second position. Dutch attriters may produce Dutch subordinate clauses by analogy with English ones, as in **omdat hij was ziek* ('because he was ill'), which is *omdat hij ziek was* in standard Dutch. This phenomenon is more elaborately discussed in 5.4.

2.3.3 Previous research on internally and externally-induced change

There is very little research on the disintegration of inflection and syntax that has considered both internally and externally-induced change, especially studies that have looked at L1 Dutch and L2 English.

For morphology, one notable exception is the work of Smits (1996), who examined language shift among Iowa Dutch speakers. Iowa Dutch is a language variety spoken by Dutch emigrants and their descendents who moved to the prairies of Iowa during the second half of the 19th century and the first half of the 20th. Iowa Dutch underwent many synchronic and diachronic changes, but has been out of everyday use for more than four decades now. Data from two stages of morphological dissolution were examined: 1966 and 1989 (Smits, 1996: 1). Explanations were given in the realms of both internal restructuring and external influences from English. The outcome of Smith's study was therefore taken as provisional evidence on which to base predictions about L1 attrition in the present study.

No comparable studies are available on the attrition of Dutch syntax, but work of this kind has been carried out for German (cf. Schmid, 2002). As German is typologically similar to Dutch, this has, wherever possible, been used as a provisional source of evidence in the formulation of predictions about the syntactic erosion in Dutch émigrés. In particular, Schmid (2002) investigated the attrition of German morphology and syntax in a sample of German Jews who had fled Germany during the Nazi regime and who had lived in the United States for a minimum of 45 years (Schmid, 2002: 70). The outcomes are reviewed both in the light of internal remodeling and externally-induced changes.

2.4 Organization of the acquisition and attrition of the Dutch morpho-syntax chapters

This preliminary chapter has explored a number of constructs that underlie the following three chapters on the growth and decay of the Dutch morphological and morpho-syntactic system. All these chapters follow the same structure. First, for each grammatical feature, the Dutch system is explained in some detail. Second, the sequences that have been identified in the acquisition of that feature in Dutch-speaking children are presented. Studies on the development of morpho-syntax, and of verb phrase morphology and syntax in particular, have predominantly taken a generative perspective. In our discussion of these items, however, an attempt is made to adopt a theory-neutral stance by solely reporting the sequences in development that have been found. This is followed by a brief discussion of the English system in order to separate internal restructuring from external influences. All this information is then used to formulate predictions about the attrition of the morphological or morpho-syntactic feature under investigation, occasionally supported by preliminary evidence from previous studies (see also 2.3.3).

In order to formulate precise predictions about the attrition of each feature, tables are presented which summarize the acquisition process and review if the feature tends to be acquired early or late in child Dutch. In addition, the tables present information about the level at which the phenomenon in question is conditioned. For example, a morphological feature such as plural inflection is located at the interface between semantics, phonology and morphology (3.1.1), and this interaction may have consequences for its acquisition and/or attrition rate and pattern. Moreover, each feature's frequency is also given in table-format as well as information about its functionality. These latter two characteristics can in turn serve to make predictions about entrenchment and preemption processes (see 1.2.2.4): frequent items are likely to be more entrenched and are therefore less likely to be lost in attrition, unless overridden by functionality constraints (see also Andersen, 1982: 97). Finally, information is provided about the presence or absence of an L2 counterpart, for reasons outlined above.

The predicted mirror symmetry between acquisition and attrition is captured in implicational hierarchies[4] in all three morpho-syntax chapters. These stepwise developmental patterns enable the formulation of precise and testable hypotheses and, in addition, fit the dependency structure that is implied in the regression hypothesis (see Introduction).

[4] All implicational hierarchies that are presented in the following three chapters should be interpreted as relative rather than absolute, for reasons outlined in 1.1.1.

Chapter 3
Implicational Hierarchies in the Acquisition and Attrition of Dutch Noun Phrase Morphology

This chapter explores the stepwise development in the acquisition and attrition of morphological phenomana in the Dutch noun phrase with regard to plural inflection, agentive formation, article selection, adjectival inflection and diminutive formation. Predictions about regression in each feature are formulated on the basis of child language acquisition, but also with respect to general properties of the Dutch language system. In addition, the English counterpart of each phenomenon is discussed. All predictions take the form of implicational hierarchies (see 1.1.1).

3.1 Plural inflection

3.1.1 Dutch plural inflection

In Dutch, a two-way distinction is made between singular and plural nouns. While the singular is characterized by zero inflectional marking, standard Dutch has two competing and productive suffixes to indicate the plural: *-s* and *–en* (Booij, 2002: 21). Which of the two markers is selected depends on the morpho-phonological make-up of the noun and on prosodic factors. The *–s* is attached to nouns that end in an unaccented syllable. Since monosyllabic nouns necessarily end in a stressed syllable, *-s* is only ever attached to polysyllabic words (Smits, 1996: 60): *wortel – wortel-s* ('carrots'). The *–en* suffix is selected for all other bases and is therefore the more frequent of the two. This frequency has resulted in its status as the default plural marker (Booij, 2002: 24, Smits, 1996: 60). An example of nouns that belong to this category is *boek – boek-en* ('books'). It should also be noted how substantivized adjectives and past participles typically select *–en* in their plural as well: *gevangene – gevangene-n* ('prisoners') (Smits, 1996: 78).

Not all nouns pluralize according to the two productive suffixes, however. Dutch has a set of 15 nouns that end in an unproductive plural suffix: *–eren.* Examples are *blad – blad-eren* ('leaves') and *kind – kind-eren* ('children') (Booij, 2002: 22). Most importantly, Dutch has a great number of irregular plurals, which are characterized by a vowel alternation in the stem of lengthening, as in *schot* (/sχɔt/) – *schoten* (/'sχoːtən/) ('shots') (Smits, 1996: 61) or by a lengthening plus vowel change: *schip* (/sχɪp/) – *schepen* (/'sχeːpən /) ('ships') (Booij, 2002: 28).

A further set of irregular plural forms are borrowed items. Loanwords, especially Latinate items, tend to respect the plural form of the source language. The form *collega* ('colleague') therefore pluralizes in *collegae,* but it is also possible for loanwords to follow Dutch pluralization rules, resulting in *collega's*[5] (Booij, 2002: 29). The *–s* plural marker is prevalent in nouns of English or French origin, even in cases where the *–en* suffix should have been selected on the basis of Dutch morpho-phonological criteria. Examples are *tram – tram-s* ('trams') and *bureau – bureau-s* ('desks').

An important distinction to make is that between non-count and count nouns in Dutch. There are a number of nouns that lack a plural form, motivated on semantic grounds: it does not make sense to have more than one of these entities (Booij, 2002: 21). Examples of such nouns are *arbeid* ('labor') and *aandacht* ('attention'). Conversely, Dutch has a number of so-called *pluralia tantum* nouns that only ever occur in the plural, as it is not possible to interpret these nouns in their singular form (Booij, 2002: 22), such as *ingewanden* ('intestines').

Dialectal varieties of Dutch do not always conform to the standard conventions when it comes to plural inflection. Deviations usually take one of two forms. For one, dialects of Dutch may show plural suffixes other than *–s* and *–en* and the unproductive *-eren.* For example, varieties spoken in the eastern part of the Netherlands have the additional plural ending *–ers.* Speakers of those varieties may form **kind-ers* instead of *kind-eren* ('children'). Furthermore, dialectal varieties do not always show the same distributional pattern for the two productive plural markers, *–s* and *–en,* as standard Dutch. Rather, the *–s*

[5] If Dutch nouns end in a vowel that is not realized as a schwa, the orthographic form of their plural contains an apostrophe *–s.* Other examples are *oma – oma's* ('grandmas') or *menu – menu's* ('menus').

suffix is often attached to monosyllabic nouns, which receive *–en* in the standard language because of their final stressed syllable. This is especially apparent in northern varieties of Dutch and results in forms like **beer-s* for the standard *ber-en* ('bears') or **darm-s* for *darm-en* ('bowels'). It should be noted, however, that in all these cases the deviant forms typically occur alongside the standard plural endings (Smits, 1996: 62-63).

3.1.2 The acquisition of Dutch plural inflection

Across languages, plural marking on nouns tends to be one of the first morphological developments in acquisition due to their cognitive saliency: the referents are often concrete entities (Schaerlaekens, 1977: 166). In addition, plural forms tend to be highly frequent in the linguistic input, which also speeds up the acquisition process (Snow, Smith & Hoefnagel-Höhle, 1980: 551). This does not mean that the linguistically correct way to mark plurality is also in place at an early age or instantly. Most languages show a clear developmental path that children follow with respect to plural inflection.

Dutch-speaking children also tend to show distinctive patterns in their development of plural inflection. The first acquisitional stage is characterized by zero-marking, although children can already make the cognitive distinction between one and several. At this stage, they typically use lexical means to indicate the plural: *nog* ('still'), *twee* ('two'), *allemaal* ('all') and *ook* ('also'), which results in constructions like **allemaal twee schoen* ('all two shoe') (Schaerlaekens, 1977: 150-152). This phase can continue up to 2;1 (Extra, 1978: 59).

During the second stage, typically between 1;11 and 2;5 (Extra, 1978: 59), the standard plural markers *–s* and *–en* are introduced, although initially they co-occur with non-standard, zero-inflection forms (Schaerlaekens, 1977: 153). As soon as plural markers come to be used more extensively, the *–s* marker tends to be overgeneralized, resulting in non-standard plural nouns such as **voet-s* ('feet') or **luilak-s* ('lazybones'). Occasionally, *-en* generalizations are attested as well (**auto-ën* - /ˈoːtoːən/) instead of *auto's* ('cars') (Extra, 1978: 59), but this is not frequently reported in the literature. The overgeneralization of the *–s* suffix has been ascribed to the frequency with which children use diminutives at this stage (see 3.5.2), as diminutives invariably pluralize in *–s* (Schaerlaekens, 1977: 153). For example, the plural form of *boom-pje* ('small tree') is *boom-pje-s*. At the same time that *–s* is overgeneralized, word-final *–en* is regularly dropped on

singular nouns, resulting in forms like **vark-ø* for *varken* ('pig') or **jong-ø* instead of *jongen* ('boy') (Schaerlaekens, 1977: 153).

A third phase follows, roughly completed around 4;0 (Extra, 1978: 59), which is characterized by the mastery of the distributional patterns for *–s* and *–en*. Although occasional deviations continue to occur, the regular plural inflection is firmly in place for most children (Schaerlaekens, 1977: 153). Learners do continue to have problems with irregular plural forms and deviations occur until approximately 6 years of age (Extra, 1978: 59), mostly in the realm of vowel mutations. Children are often observed to regularize such forms, as in **schip(p)-en* (/'sχɪpən/) for *schepen* (/'sχeːpən/) ('ships'). In addition, they tend to regularize the set of 15 nouns that pluralize in *–eren*, which results in forms like **blad(d)-en* (/'blɑdən/) instead of *blad-eren* (/'blaːdərən/). Finally, young Dutch-speaking children have difficulty pluralizing nouns whose final consonant undergoes an allophonic change in the singular: the final /d/ in the Dutch *hond* ('dog') is devoiced (/'hɔnt/), but becomes voiced when *–en* is added in the plural (*hond-en* - /'hɔndən/). Dutch children commonly produce *hont-en* (/'hɔntən/) (Extra, 1978: 59).

3.1.3 English plural inflection

English, like Dutch, shows a two-way contrast between singular and plural (Quirk, Greenbaum, Leech & Svartvik, 1985: 297). Unlike Dutch, however, English only has one productive plural suffix with three allophonic variants. The plural marker *–s* is realized as /s/, /iz/or /z/, the choice between them being fully predictable on the basis of the phonemic context: /s/ occurs in words like *lift-s*, where the plural marker follows a fortis obstruent, /ɪz/ is found after /s, z, ʃ , ʒ/, as in *bus-es* or *bush-es* and /z/, finally, occurs in all other situations, for instance in items like *love-s* (Gussenhoven & Broeders, 1997: 28).

Similar to the Dutch system, English makes a distinction between regular and irregular plurals. Whereas regular English plurals are predictable on the basis of the stem (*dog – dog-s),* irregular plurals are not (*foot – feet* or *child –*

children). Like Dutch, English has always been a great borrower and the category of irregular plurals includes a large number of loanwords that respect the original plural ending, exemplified in *criterion – criteri-a* (Quirk et al., 1985: 298).[6]

Also similar to Dutch is the fact that English observes a count versus non-count distinction in its nouns. English nouns can be roughly divided into three categories: nouns that can occur both in the singular and plural (like *dog – dog-s*), singular invariable nouns (that only occur in their singular form, for example *music)* and *pluralia tantum* nouns, such as *people* (Quirk et al., 1985: 297).

On the whole, the Dutch and English plural systems are similar, but differ in one important respect: Dutch has two productive plural suffixes where English only has one.

3.1.4 The attrition of Dutch plural inflection

The most important predictions about the reduction of the morphological system in attrition for this study are those that result from the regression hypothesis. The general prediction is that those morphological features that have been acquired early will also be relatively robust in language attrition. However, to be complete, information about the conditioning of the morphological phenomena, their frequency and functionality as well as L2 equivalence should not be overlooked (see 2.4). Table 3.1 present an overview of all these properties in relation to Dutch plural inflection.

[6] It is interesting how, historically, English also made use of the plural marker *–en* that still exists in Dutch today. Remnants of this system can still be found in irregular forms like *child-children, ox-oxen* or the archaic *brother – brethren* (Quirk et al., 1985: 307). This similarity can be traced to the Germanic roots that Dutch and English share.

Table 3.1: Properties of Dutch plural inflection

	general	**-en plurals**	**-s plurals**	**irregular plurals**
acquisition	1;0-6;0	mid	early	late
conditioning	semantic/ phonological	phonological	phonological	phonological
frequency	high	high	mid/high	low
functionality	yes[7]	no	no	no
L2 equivalent	yes	no	yes	yes

On the basis of this table, both *–en* and *–s* plural endings are likely to be better retained in attrition than irregular plurals. Whereas *–s* plural endings are acquired before the *–en* suffix, *-en* plurals are more frequent in Dutch. However, the fact that no English equivalent exists for *–en* plural formation might make it more susceptible to attrition.

The change in Dutch plural inflection properties has been tested in Smits (1996, see 2.3.3). She found evidence for both internal restructuring and external influence in the changes in plural inflection in speakers of Iowa Dutch. Internal reorganization was found in that both the recordings from 1966 and those from 1989 were characterized by an increase in regularity, where *-en* and *–s* were extended to irregular contexts. For example, *-en* also came to be used in former *–eren* contexts, resulting in **blad-en* instead of *blad-eren* ('leaves'). Regularization also applied to vowel lengthening + vowel alternation contexts, creating forms like *stad (/stat/) – *stat(t)-en (/statən/)* for *stad (/stat/)- sted-en (/ste:dən/)* ('cities') (Smits, 1996: 77). These regularizations are not unlike those found in child Dutch (see 3.1.2). In more advanced stages of shift, *-en* was occasionally found to be overgeneralized to *–s* contexts. For example, Iowa Dutch speakers produced forms like **om-en* ('uncles') where standard Dutch selects *oom-s* (Smits, 1996: 168). In even further stages of erosion, the Dutch plural was occasionally indicated through zero marking, as in **twee boerderij-Ø* ('two farm') for *twee boerderij-en* ('two farms') (Smits, 1996: 171), which corresponds to the very first stages in child Dutch.

[7] While the distinction between the singular and the plural is functional, the distinction between *–s, -en* and irregular plural markers is not. Using an incorrect plural marker does not result in a loss of information.

More frequent in terms of internal remodeling was the generalization of the *-s* marker in substantivized adjectives and past participles, which typically select *-en* in standard Dutch (see 3.1.1). For example, where standard Dutch has *gevangene-gevangene-n* ('prisoners'), Iowa Dutch speakers were found to produce the plural **gevangene-s*. This is in line with prosodic factors that assign the plural marker *–s* to polysyllabic nouns that end in unstressed syllables. Although instances like these mainly point in the direction of internally-induced change, they could have been further promoted by L2 influence from English (Smits, 1996: 168).

Not all morphological reduction in Iowa Dutch resulted in increased regularity; a number of changes were clearly influenced by L2 English. The suffix *–s* was found to be used in contexts where prosodic factors would result in the selection of *–en*. Examples are *hek - *hek-s* for the standard *hek(k)-en* ('fences') and *land – *land-s* rather than *land-en* ('countries') (Smits, 1996: 170). The overgeneralization of *–s* was most prevalent in contexts where the Dutch noun showed a strong surface resemblance with its English counterpart or in the case of cognates (Smits, 1996: 170).

In sum, evidence from language shift in Dutch suggests that most changes are the result of internal regularization processes, but there is also some evidence for L2 influence. The resulting structures frequently resemble those produced by Dutch-speaking children in acquisition. The facts from Iowa Dutch thus provide indirect substantiation for some of the predictions that can be made on the basis of Table 3.1.

3.1.5 Predictions regarding the regression hypothesis and plural inflection

The discussion above indicates that there may indeed be parallels in the development of plural inflection in child Dutch and language shift. The language shift patterns found by Smits (1996) were the mirror image of developmental patterns in child Dutch.: the initial stages in acquisition and the final stages of shift are both characterized by zero inflection. In acquisition, this stage is followed by a search for regular patterns in which the productive suffixes *–s* and *–en* are in competition with respect to their distributional patterns. At this stage, one marker is generalized in favor of the other (typically *–s* at the expense of *–en*). A similar stage of linguistic insecurity was witnessed

in Iowa Dutch. Last-in in acquisition and first-out in language shift appear to be irregular plural forms.

On the basis of these findings, predictions can be formulated about the parallels between language acquisition and language attrition of L1 Dutch, by means of the implicational hierarchy below. The hierarchy represents the general order of acquisition (from left to right) and the hypothesized order of loss (from right to left). The tenability of the hierarchy will be discussed in the results section (chapter 7).

zero plural marking	<	*-s* and *–en* plural suffixes (where *–s* is typically overgeneralized)	<	irregular plural forms

3.2 Agentive formation

3.2.1 Dutch agentive formation

Agentive formation in Dutch is characterized by the use of two productive and competing agentive markers: *-er* and *–aar*. These suffixes are attached to the stem of verbs to create agent nouns, as in *werk-er* ('worker') or *wandel-aar* ('hiker'). The selection mechanism for these markers depends on prosodic factors: *–aar* is attached to unaccented syllables, whereas *–er* is reserved for bases that end in accented syllables (van Haeringen, 1951: 108). Of the two agentive suffixes, *–er* is more frequent and has therefore been described as the underlying agentive marker (Snow et al., 1980: 543). To create a phonologically optimal form, a /d/ is occasionally inserted between the stem and the agentive suffix, as in *roer – roer-d-er* to indicate someone who stirs (Snow et al., 1980: 543). In general, agentive formation in Dutch is a highly productive process and not only results in human agents, but is also attested for inanimate objects like *schakel – schakel-aar* ('switch').

There are a number of exceptions where the prosodic selection mechanism does not apply, for example in *win(n)-aar* ('winner'), whose stem *(win),* being monosyllabic, ends in an accented syllable and should thus select *–er*. A new and more specific selection rule has been proposed to account for such exceptions: *-aar* is attached after /l, n, r/, if these consonants are preceded

by an unstressed vowel. The suffix *–er* is then added to all other stems, with the following exceptions: *ler-aar* ('teacher'); *min(n)-aar* ('lover'); *(over)win(n)-aar* ('winner'); *dien-aar* ('servant'); *zond-aar* ('sinner') (van Haeringen, 1951: 113).

Dutch can also indicate that the agent noun denotes a woman. The productive process of doing so is to attach *–ster* or *–aarster* to the verb stem*: werk-ster* ('feminine worker')*; wandel-aarster* ('feminine hiker') (van Haeringen, 1951: 114). There appears to be a tendency in present-day Dutch to omit the feminine ending altogether, however, especially in the realm of professions (van Santen, 1992: 148).

3.2.2 The acquisition of Dutch agentive formation

The available evidence on the acquisition of Dutch suggests that agent nouns generally emerge late due to their low saliency and low frequency in the linguistic input (Snow et al., 1980: 551). It has been reported that a large proportion of 7 year-old native speakers of Dutch have not yet mastered the basic agentive suffix *–er* (Snow et al., 1980: 547). Instead, young Dutch-speaking children typically use other means to indicate agentivity, mostly analytic formulations like *de man die schildert* ('the man who paints').

Once agent nouns do emerge, the order in which acquisition takes place tends to show great variability, although all children appear to acquire the distributional pattern for the two productive agentive suffixes before they master forms that require *d*-insertion or irregular forms like feminine agentives (Snow et al., 1980: 547).

3.2.3 English agentive formation

Like Dutch, English has morphological means to mark agentivity on nouns. One important difference, however, is that it uses only one agent suffix, *(/ər/),* which is attached to the stem of verbs. This marker almost invariably takes the surface form of *–er (sing-er, writ-er, employ-er),* but is occasionally orthographically realized as *–or: supervise-or.* Similar to the Dutch system, English agentive formation is also productive and not only results in human agents, but can also be seen in forms like *silenc-er* or *thrill-er* (Quirk et al., 1985: 1550).

As in Dutch, English agent nouns can also specifically denote women, typically signaled by the use of *–ess.* In Dutch, this feature has started to

disappear, but this elimination is even further underway in English; feminine agent markers are rarely used at present and are only attached to a limited number of words: *waitr-ess, actr-ess, steward-ess, host-ess* and, less conventionally, *manag-er-ess*[8] (Quirk et al., 1985: 1549).

To conclude, Dutch and English resemble one another with respect to agentive formation, but an important difference is that English has one agentive marker, while Dutch has two productive agentive suffixes.

3.2.4 The attrition of Dutch agentive formation

Table 3.2 summarizes Dutch agentive formation and serves as a basis on which predictions about language attrition can be made.

Table 3.2: Properties of Dutch agentive inflection

	general	**-er agentives**	**-aar agentives**	**feminine agentives**
acquisition	?-7;0	mid	mid/late	late
conditioning	semantic/ phonological	phonological	phonological	semantic/ phonological
frequency	mid	mid	lower	lower
functionality	yes	no	no	yes
L2 equivalent	yes	yes	no	yes

All evidence points to an early erosion of feminine agentive forms. Not only is it acquired late, but it is also less frequent and functional than its masculine counterpart. An additional complexity of this phenomenon is that the new generation of Dutch speakers may not have productive means to indicate feminine agents. The suffixes *–er* and *–aar* resemble each other in many respects, but *–er* has a higher frequency and, in addition, has an L2 equivalent in English (also *–er*). As such, it stands a better chance against attrition than *–aar*. None of these predictions have been empirically tested.

[8] Even in these cases, there is a notable difference between Dutch and English. Whereas the Dutch feminine agentive suffix is attached to the verb stem, English adds the feminine marker directly to the masculine agent noun.

3.2.5 Predictions regarding the regression hypothesis and agentive formation

The expected mirror symmetry between acquisition and attrition is captured in the following hierarchy. The order of acquisition proceeds from left to right, while the predicted order of attrition is from right to left.

zero agentive marking	<	*-er/-aar* agentive suffixes (where *–er* is typically overgeneralized)	<	irregular forms (e.g. feminine allomorphs)

3.3 Article selection

3.3.1 Dutch article selection

Dutch has three articles: an indefinite article *een* and two definite articles, *de* and *het,* all of which are part of a closed class of determiners. Article selection cannot be seen as separate from the grammatical gender system, as the distribution of the two definite articles depends on the grammatical gender of the noun they modify.

Dutch gender does not constitute a morphological category and is only indirectly manifested through the choice of determiner and the declension of adjectives and quantifiers (Booij, 2002: 36, see 3.4.1). Dutch nouns can be one of two genders: common or neuter gender, the former comprising the historical categories of masculine and feminine. The article *de* is used for common gender nouns and *het* is reserved for nouns that have neuter gender. It is because of this that Dutch nouns are often referred to as either *de*-nouns or *het*-nouns (Booij, 2002: 36). As *de*-nouns comprise roughly 80%, the common gender is more frequent. Both common and neuter nouns select the article *de* in the plural. The distribution of articles in Dutch is schematically presented in the following grid (Table 3.3).

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Table 3.3: Distribution of Dutch articles

		count common	**count neuter**	**non-count common**	**non-count neuter**
singular	**definite**	*de man* ('the man')	*het boek* ('the book')	*de arbeid* ('the work')	*het weer* ('the weather')
	indefinite	*een man* ('a man')	*een boek* ('a book')	*Ø arbeid* ('work')	*Ø weer* ('weather')
plural	**definite**	*de mannen* ('the men')	*de boeken* ('the books')		
	indefinite	*Ø mannen* ('men')	*Ø boeken* ('books')		

It has been questioned whether the gender of nouns in Dutch can ever be predicted on the basis of non-morphological properties, for example on phonological or semantic grounds. Semantic properties play a role to the extent that nouns that denote human beings often belong to the common gender class, as in *de man* ('the man'), but there are also a number of exceptions, for example *het kind* ('the child'). Phonological principles may also partly determine the assignment of grammatical gender. For example, all nouns that end in *–ing /-iŋ/)* belong to the common gender class, with *het ding* ('the thing') as the only exception (Booij, 2002: 37-38).

The question then is to what extent native speakers are sensitive to regularities at all. One possible way to answer this question is to look at loanwords. It has been claimed that their gender assignment largely depends on the loaned item's similarity to existing Dutch words. For example, the loan *computer* has been assigned common gender: *de computer,* presumably because all derived nouns in *–er* belong to the common gender class (Booij, 2002: 38). The fact that gender assignment for new words takes place on the basis of analogy would suggest that native speakers are sensitive to regular patterns in the Dutch gender system.

Thus, article selection and gender assignment are inherently linked in Dutch. Despite regularities, there are many arbitrary aspects about the Dutch gender system and it may even be called surprising that it is still relatively stable

in present-day Dutch (Booij, 2002: 39). In a recent study, however, the stability of the Dutch gender system is questioned (cf. Audring, forthc.).

3.3.2 The acquisition of Dutch article selection

There are a number of cognitive prerequisites in the acquisition of Dutch article selection. First, children have to understand that all nouns can be preceded by a determiner. Second, they must grasp that this determiner can be both definite and indefinite and must have some comprehension of which one is used in which contexts (Tomasello, 2003: 211-213). Finally, and most importantly, children must understand that the choice of definite article depends on the grammatical gender of the noun it modifies (cf. van Kampen & Wijnen, 2000). If children have not yet mastered the correct gender of various nouns, they cannot select the correct article. Because of these prerequisites, article selection has been claimed to be among the late developments in child language, although the exact age at which articles emerge as well as their order and frequency in child Dutch are unclear (de Houwer & Gillis, 1998: 37).

A number of studies have looked at the development of the gender system and article selection, but these have been mostly case studies. In one such study, the development of article selection was longitudinally monitored in six Dutch-speaking children (Schaerlaekens, 1977). For all children, the indefinite article *een* emerged relatively early with its first occurrence around the age of 2;1. This was closely followed by the emergence of the default determiner *de,* which for some children took place simultaneously with the acquisition of *een.* It was not before 2;6 that both *een* and *de* were found to be used more frequently and more in line with the adult model. The definite article *het* did not develop until around 3;0 (Schaerlaekens, 1977: 146). In another case study (de Houwer & Gillis, 1998: 37), gender distinctions were not in place by 3;4. Thus, although no detailed quantitative investigations into the development of gender distinctions as manifested by article selection have been conducted, the cognitive prerequisites involved would not predict early mastery.

3.3.3 English article selection

English and Dutch are similar in the sense that both languages have indefinite and definite articles. Both have one indefinite article, *a* and *een,* respectively. The difference between English and Dutch lies in the definite article: whereas

Dutch has two definite articles, English only has one. Because of this, the grammatical gender of the following noun in English does not determine its selection. The same schema as in Table 3.3 can therefore be given for English, but without the gender information. (Quirk et al., 1985: 253).

Table 3.4: Distribution of English articles

		count	**non-count**
singular	**definite**	*the book*	*the furniture*
	indefinite	*a book*	*Ø furniture*
plural	**definite**	*the books*	
	indefinite	*Ø books*	

3.3.4 The attrition of Dutch article selection

The properties of Dutch article selection are presented in Table 3.5.

Table 3.5: Properties of Dutch article selection

	general	**een**	**de**	**het**
acquisition	2;1-3;4	early	mid	late
conditioning	pragmatic/ morpho-syntactic	morpho-syntactic	morpho-syntactic	morpho-syntactic
frequency	high	high	high	mid/high
functionality	yes	yes	no[9]	no
L2 equivalent	yes	yes	yes	no

The indefinite article *een* is not likely to form a problem in attrition due to its early acquisition, high frequency and the fact that it has an English counterpart. Of the two definite articles, *de* stands a better chance against attrition, as it is acquired earlier, is more frequent and is phonologically more similar to English *the* than *het*.

There is some evidence from language shift in Iowa Dutch to support these predictions (cf. Smits, 1996). Gradual gender loss was found to be

[9] Although the distinction between definite and indefinite articles is functional, the distinction between *de* and *het* is not, given the fact that a replacement of one by the other does not result in a loss of information.

operative in Iowa Dutch, where neuter nouns were no longer distinguished from common nouns. As a consequence, *de* was generalized at the expense of *het* (Smits, 1996: 172).

3.3.5 Predictions regarding the regression hypothesis and article selection

The interaction between the gender system and article selection can help to make predictions about the mirror symmetry in acquisition and attrition. As long as children are not aware of the gender of nouns they cannot use a correct distribution of articles. Likewise, the gender system may erode in L1 Dutch attriters, which will be reflected in an inability to select the correct definite article. These hypotheses are captured in the following implicational hierarchy.

no articles	<	the indefinite article *een*	<	the definite article *de*	<	the distinction between definite and indefinite reference (indicated by means of either *een* or *de*)	<	the definite article *het*

3.4 Adjectival inflection

3.4.1 Dutch adjectival inflection

Dutch adjectives display both inherent and contextual inflection (see 2.2). Inherent inflection is apparent in degree forms of comparatives and superlatives, as in *heet – het-er – heet-st* ('hot – hotter – hottest'), while contextual inflection occurs in pronominal adjectives whose forms are determined by the syntactic configuration of the phrase, as in *de mooi-e bloem* ('the beautiful flower') (Booij, 2002: 39).

3.4.1.1 Inherent adjectival inflection in Dutch

The suffix used for comparative adjectives is *–er : lelijk – lelijk-er* ('ugly')*),* except in cases where this would result in the sequence *-rer*. As this sequence is less than optimal phonemically, the negative output constraint 'avoid the sequence r-schwa-r' is at work (Booij, 2002 40). An example of such a dispreferred structure is *bitter – *bitter-er* ('bitter'), which subsequently becomes *bitter-d-er*.

Superlative adjectives are formed by adding *–st* to the stem, as in *lelijk – lelijk-st* ('ugly') (Booij, 2002: 39). Unlike in comparatives, no output constraints apply to superlative degree forms, but a number of Dutch degree adjectives do show stem allomorphy. Examples are *goed – beter – best* ('good') and *veel – meer – meest* ('much/many'*)* (Booij, 2002: 42).

Adjectives that cannot receive a gradable interpretation do not have degree forms at all. An example of such an adjective is *taalkundig* ('linguistic')*,* which cannot be inflected for degree, as it is impossible to talk about 'more' and 'most linguistic' (Booij, 2002: 40-41).

3.4.1.2 Contextual adjectival inflection in Dutch

In line with many other Germanic languages, Dutch adjectives in pronominal position exhibit contextual inflection in order to agree with the head of the noun phrase. Contextual inflection essentially depends on three factors: definiteness, number and gender (Booij, 2002: 43). The basic tenet is that pronominal adjectives are formed by means of the principle stem plus schwa: *mooi – mooi-e* ('beautiful'), except in cases where the head noun is indefinite, singular and has neuter gender. In these contexts, the adjective receives zero inflection. Table 3.6 provides an overview of contextual inflection in Dutch adjectives.

Table 3.6: Distribution of Dutch contextual adjectival inflection

	definite	**indefinite**
common gender	stem + schwa *de mooi-e man* 'the beautiful man'	stem + schwa *een mooi-e man* 'a beautiful man'
neuter gender	stem + schwa *het mooi-e boek* 'the beautiful book'	stem + Ø *een mooi-Ø boek* 'a beautiful book'
plural forms	stem + schwa *de mooi-e mannen* 'the beautiful men' *de mooi-e boeken* 'the beautiful books'	stem + schwa *mooi-e mannen* 'beautiful men' *mooi-e boeken* 'beautiful books'

Thus, we find the definite noun phrase *het mooi-e boek* ('the beautiful book'), but *een mooi-Ø boek* ('a beautiful book'), because in the latter case the noun *boek,* which has neuter gender, is preceded by the indefinite article *een* ('a') (Booij, 2002: 43-44). When indefinite neuter nouns are pluralized, they are inflected: *de mooi-e boek-en* ('the nice books'). Thus, while the form of the adjective largely depends on the noun, the determiner of the noun phrase also plays an important role, because it is the determiner that indicates [±definiteness] of the head noun (see 3.3.1).

There are a number of exceptions to the categorical rules of contextual adjectival inflection. For one, no inflectional schwa is added to adjectives that already end in *–en,* presumably because adding a schwa to an already unstressed syllable results in a 'rhythmic lapse' and such a construction is dispreferred in Dutch. An example is *het hout-en paard* ('the wooden horse') and not *het *hout-en-e paard* (Booij, 2002: 45-46). The same is true for a second group of adjectives that end in *–er,* for example *Groning-er koek* (' cake from Groningen') or *recht-er hand* ('right hand'). It would be wrong to assume zero allomorphy for this group of adjectives, because 'regular' adjectives in *–er* do not allow zero allomorphy: *de *lekker-Ø koek* ('the tasty cake') is not acceptable in Dutch (Booij, 2002: 47).

There are a number of adjective-noun combinations that occur so frequently that they have come to be regarded as special units or compound-like structures (Odijk, 1992: 199). Three types of exceptions are generally distinguished and none of the adjectives in these categories are inflected: Type I, Type II and Type II adjectives. Their special status is reflected in Table 3.7.

Table 3.7: Distribution of Dutch Types I, II and III exceptions regarding contextual adjectival inflection

		singular	**plural**
type I	**definite**	stem + Ø *het medisch-Ø dossier* 'the medical file'	stem + schwa *de medisch-e dossiers* 'the medical files'
	indefinite	stem + Ø *een medisch-Ø dossier* 'a medical file'	stem + schwa *medisch-e dossiers* 'medical files'
type II	**definite**	stem + Ø *het pienter- Ø dier* 'the clever animal'	stem + schwa *de pienter-e dieren* 'the clever animals'
	indefinite	stem + Ø *een pienter- Ø dier* 'a clever animal'	stem + schwa *pienter-e dieren* 'clever animals'
type III	**definite**	stem + Ø *de maatschappelijk-Ø werker* 'the social worker'	stem + Ø *de maatschappelijk-Ø werkers* 'the social workers'
	indefinite	stem + Ø *een maatschappelijk- Ø werker* 'a social worker'	stem + Ø *maatschappelijk- Ø werkers* 'social workers'

Type I adjectives modify nouns that are a) either singular or plural, b) have neuter gender and c) are part of either definite or indefinite noun phrases. Type I exceptions display zero inflection in the singular, although a schwa suffix is attached to the plural form, for example in the combination *het medisch-Ø dossier* ('the medical file'). The article *het* signals that the noun *dossier* has neuter gender (see 3.3.1). Making the noun phrase indefinite does not change the inflection: *een medisch-Ø dossier* ('a medical file'), but the plural form does receive an additional schwa, as in *de medisch-e dossier-s* ('the medical files').

Type II exceptions are adjectives that occur in front of nouns that are a) singular, b) part of definite or indefinite noun phrases that c) denote a male person (or a female person if marked by overt morphology, see 3.2.1). Examples of Type II adjectives are *een dapper-Ø soldaat* ('a brave soldier') or *een braaf-Ø man* ('a good man'), which in the plural receive the standard schwa: *de dapper-e soldat-en* ('the brave soldiers') (Odijk, 1992: 198). The selection of nouns

that can occur in these exceptional structures appears to be largely arbitrary. While *een braaf-Ø man* is acceptable, a structure like *een *braaf-Ø vent* ('a good guy'*)* is not (Odijk, 1992: 198).

Type III adjectives, finally, occur in pronominal position before nouns that are a) either singular or plural, b) part of noun phrases that are definite or indefinite and that c) denote a male person (or a female person if marked by overt morphology). Adjectives of this type do not receive adjectival inflection, neither in the singular nor in the plural. An example is *een maatschappelijk-Ø werker* ('a social worker') – *de maatschappelijk-Ø werker-s* ('the social workers') (Odijk, 1992: 198).

3.4.2 The acquisition of Dutch adjectival inflection

Initially, Dutch-speaking children tend to use adjectives as if they were nouns, for example in (1).

1) *geeft ziek af?*
give-3SG ill off?
'does ill contaminate?'

This phenomenon also occurs in the reverse direction where nouns are used in an adjectival sense (Elbers & van Loon, 1998: 340, see (2)).

2) *iets pijns*
something pain-GEN
'something painful'

In the discussion below the acquisition of inherent adjectival inflection is separated from developmental paths in contextual adjectival inflection.

3.4.2.1 The acquisition of inherent adjectival inflection in Dutch

Degree forms are reported to enter the child's repertoire between the ages of 2;6 and 5;0 (Schaerlaekens, 1977: 165). That does not mean that the correct degree suffixes *–(d)er* and *–st* are also used at that age. In fact, children frequently use analytic means to indicate degree on adjectives at first, such as

veel ('much/many') in **veel koud* ('much cold') (Schaerlaekens, 1977: 164). This is often followed by a stage of double marking, as in *vlak – *vlak(k)-er-d-er* for the standard *vlakk-er* ('flatter') (Schaerlaekens, 1977: 165).

Even when the comparative and superlative system is in place, children continue to have difficulty with irregular degree forms that exhibit stem allomorphy. Instead of producing *goed – beter – best* ('good – better – best'), children tend to regularize such structures into **goed – goei-er – goed-st* (Schaerlaekens, 1977: 164).

Thus, inherent inflection is often not in place before 5;0 and children continue to struggle with irregular forms that show stem allomorphy long after that (Schaerlaekens, 1977: 165).

3.4.2.2 The acquisition of contextual adjectival inflection in Dutch

At present, the stages that Dutch-speaking children pass through in their mastery of contextual adjectival inflection are not well-established, but contextual inflection is likely to be less semantically salient than inherent inflection: contextual inflection is required by the syntactic configuration of the sentence and does not add any independent information.

Evidence from a comparative study between English, which does not inflect its adjectives, and Spanish, which does show contextual inflection on adjectival forms, has shown that Spanish-speaking children typically take longer to acquire the adjective-noun combinations than English-speaking children (Clark, 1998: 375). Similar problems may be envisaged for Dutch-speaking children, as any productive use of contextual adjectival inflection presupposes an understanding of concepts such as definiteness, number and gender.

3.4.3 English adjectival inflection

English adjectives also show inherent inflection on comparison and superlative forms, predominantly through the use of the suffixes *-er* and *–est*, resulting in forms like *great – great-er – great-est.* At the same time, English has a great number of adjectives that do not allow synthetic inherent inflection. More specifically, adjectives that consist of more than two syllables do not display synthetic inflection to indicate degree, but instead require the use of analytic constructions: *more dangerous* and *most dangerous* (Quirk et al., 1985: 402). As in Dutch, there is a small group of highly frequent adjectives in English that

undergo stem alternation in their comparative and superlative forms, for example in *good – better – best* or *bad – worse – worst*.

English adjectives do not exhibit contextual inflection: adjectives that are used in attributive function to modify head nouns have one fixed form, as in *the beautiful man* or *the beautiful book* (Quirk et al., 1985: 402-403).

3.4.4 The attrition of Dutch adjectival inflection

Table 3.8 summarizes the Dutch adjectival system in order to make predictions about its attrition.

Table 3.8: Properties of Dutch adjectival inflection

	general	**inherent inflection**	**contextual inflection**
acquisition	2;6-5;0	early	late
conditioning	semantic/ morpho-syntactic	semantic	morpho-syntactic
frequency	high	mid/high	high
functionality	yes	yes	no
L2 equivalent	yes	yes	no

On the basis of this information, inherent inflection is likely to be best retained in attrition; not only are the rudiments of comparison forms in place relatively early, but they are also semantically-governed and because of that have a high functional load. In addition, and in contrast to contextual inflection, inherent inflection has an L2 English counterpart. Although no evidence is available on the acquisition of contextual inflection, the fact that it is grammatically conditioned, and therefore lacking in functionality, makes it a candidate for early erosion. This is perhaps especially true for irregular contextual inflection due to its lower frequency. Furthermore, contextual inflection is also dependent on the [±definiteness] distinction and the gender of the noun phrase, which have been identified as candidates for attrition (see 3.3.4). If speakers do not know the gender of the noun, they cannot be expected to use the correct adjectival inflection either.

No data appears to be available on the attrition of inherent inflection, but the available evidence from language shift in Iowa Dutch (Smits, 1996) has

shown that the first stage of language shift (assessed in 1966) was characterized by marginal changes in pronominal adjectives, mostly internally-induced. For example, adjectives in *–en* frequently received an additional schwa: **verleden-e zomer* ('last summer'). In standard Dutch, the presence of a word-final schwa excludes the additional of another schwa (see 3.4.1.2). (Smits, 1996: 80).

Further internal remodeling was found in the use of zero inflection for all adjectives that modify neuter nouns. In standard Dutch, adjectives exhibit zero inflection when they modify a neuter head noun only when the noun phrase is indefinite. In Iowa Dutch, zero marking was also employed in the case of definite noun phrases. Thus, forms such as *het *droog-Ø weer* ('the dry weather') were found. This results in a system where all adjectives modifying common gender (or *de*) nouns are inflected and all those modifying neuter (*het*) nouns are not. The role of [±definiteness] is thus completely eliminated. Interestingly, such a reduction still relies on the existence of a gender system. By 1966 gender had already started to erode in Iowa Dutch (Smits, 1996: 80-81). As the gender system reached more advanced stages of shift, all adjectives tended to receive a schwa ending, including those modifying neuter nouns in indefinite noun phrases: *een *halv-e brood* ('a half loaf'). Standard Dutch would formulate this as *een half-Ø brood* (Smits, 1996: 81).

The internal remodeling of the Dutch adjectival system that started in 1966 was found to continue in 1989: the inflection in schwa was extended to increasingly more inappropriate contexts. For example, more instances of inflected adjectives modifying neuter head nouns were found: *een *klein-e schip* ('a small ship') (Smits, 1996: 172), where standard Dutch has *een klein-Ø schip*.

Apart from internal changes, Iowa Dutch was found to show changes that were externally-induced. Such interferences were initially reflected in the sporadic use of zero inflection in inappropriate contexts, as in *een heel *vreemd-Ø plaats* ('a very strange place'). At more advanced stages of linguistic erosion, external forces from English continued to influence Iowa Dutch, resulting in a further drop of adjectival inflection, even in plural forms: **klein-Ø schip(p)-en* ('small ships') (Smits, 1996: 173), where standard Dutch invariably has *klein-e schep-en*.

Externally and internally-induced language changes were thus found to be in constant competition. On the one hand, there was a tendency to create a more regular system by adding a schwa to all adjectives. On the other hand,

Iowa Dutch speakers frequently omitted any form of contextual inflection under the influence of English.

3.4.5 Predictions regarding the regression hypothesis and adjectival inflection

Predictions about regression in adjectival inflection need to distinguish inherent and contextual inflection. Evidence from child Dutch suggests that children initially indicate degree forms analytically, but no information is available for stepwise development in the mastery of contextual inflection. Inherent inflection can be hypothesized to precede contextual inflection in acquisition, as it contains independent semantic information, making is cognitively more salient. Irregular adjectival inflection, including both stem-alternating degree forms and exceptional contextual inflection, has been shown to emerge late in Dutch-speaking children. This leads to the following implicational hierarchy:

analytic means to indicate degree forms	<	inherent adjectival inflection (where irregular forms with stem allomorphy emerge last)	<	contextual adjectival inflection (where *–e* is overgeneralized and exceptions (Type I, II, III) are acquired last)

3.5 Diminutive formation

3.5.1 Dutch diminutive formation

Dutch diminutive formation has been described as a "frequent, productive and fairly regular process" (de Houwer & Gillis, 1998: 38). It is perhaps also one of the best documented cases of allomorphy in Dutch. Five different diminutive allomorphs can be distinguished: *-tje, -je, -etje, -kje* and *–pje*. The distribution of these allomorphs depends on the phonological properties of the stem to which the allomorphs are attached (Booij, 2002: 175).

When the stem-final element is an obstruent, *-je* is selected, as in *hark* – *hark-je* ('rake'); *-etje* follows sonorant consonants, which are preceded by a short vowel with primary or secondary stress, for example in *tor* – *tor(r)-etje* ('bug'); *-kje* appears after /ŋ/ unless it is overridden by the selection criteria for *–etje: koning* – *konin-kje* ('king'); *-pje* is found after /m/, *boom-pje* ('tree'), but not when the *–etje* selection criteria apply. Finally, *-tje* is selected in all other contexts, exemplified in *tafel* – *tafel-tje* ('table') (Booij, 1995: 69). Due to its high frequency, *-tje* is often considered the underlying diminutive suffix (de Houwer & Gillis, 1998: 38).

The productivity of Dutch diminutive formation is reflected in the fact that the suffix can be attached to different kinds of bases, which do not necessarily have to be lexical categories. Diminutive suffixes can be added to nouns, verbs, adjectives, adverbs, prepositional phrases or determiners, creating forms like *dut* ('to nap') – *dut-je* ('nap'), but also *onder ons* ('between us') – *onderons-je* ('private chat'). Note how *onderonsje* is realized as one lexical unit as opposed to the analytic *onder ons*. Diminutive forms are also subject to constraints, however. For example, diminutive suffixation is practically never used in the case of complex verbs or adjectives that consist of several compounding parts, but is reserved for simple words. One exception is the word *dubbeldik - dubbeldik-je* ('double thick ice-cream') (Booij, 2002: 89).

Dutch diminutives have a large range of interpretations. The basic meaning of diminutive forms is *small,* although not so much in a physical as in an evaluative sense. Other possible interpretations are listed below, accompanied by exemplars.

Meaning	**Base word**	**Diminutive**
Small	*tafel* ('table')	*tafel-tje* ('small table')
Endearment	*huis* ('house')	*huis-je* ('small, dear house')
Contempt	*auto* ('car')	*auto(o)-tje* ('not-so-good car')
Unimportant	*brief* ('letter')	*brief-je* ('non-official letter or note')
Individuation	*bier* ('beer')	*bier-tje* ('glass of beer')

Female	*Geert*	*Geert-je*
	('male proper name')	('female proper name')
Intensification	*hart* ('heart')	*(in het) hart-je*
		('right in the center')

Note that more than one interpretation is often possible at any time. It is especially the meaning of endearment that is always possible (Booij, 2002: 107).

3.5.2 The acquisition of Dutch diminutive formation

Universally, diminutives are among the earliest developments in child language due to the fact that they typically refer to concrete entities that are salient to young children in much the same way plural forms are (Schaerlaekens, 1977: 157, see 3.1.2). Dutch-speaking children, too, have been claimed to use diminutives from an early age onwards and to produce them fairly frequently (de Houwer & Gillis, 1998: 38). This may also be promoted by the frequent occurrence of diminutives in the linguistic input, although the exact role of child-directed speech in this process needs to be more thoroughly researched (Schaerlaekens, 1977: 157). Despite the fact that diminutives occur early in child speech, it is not certain when children begin to distinguish between diminutives and their base forms. In addition, it takes a considerable time for all diminutive allomorphs to be in place and deviant usage has been reported for children as old as 7;0 (de Houwer & Gillis, 1998: 38-39).

Four stages can be distinguished in the mastery of Dutch diminutive formation (cf. Schaerlaekens, 1977: 155-156; Extra, 1978: 60). During the first stage, children typically use the uninflected form of the word. Productive diminutive formation does not yet take place; occasional diminutives are found, but these are chunks taken directly from the input, such as *Sneeuwwit-je* ('Snow White') (Schaerlaekens, 1977: 155).

The second stage is characterized by the first productive diminutive forms, which occur alongside uninflected forms. The first productive allomorphs to emerge at this stage are *–tje* and *–je*. The other allomorphs, notably *–kje* and *–pje,* are acquired much later. This may be due to a vocabulary gap: older children may be substantially better than younger ones at correctly attaching *–kje* and *–pje* to stems, because they have acquired a "critical mass of words" that end in either /ŋ/ or /m/ and which thus select *–kje* and *–pje* (Snow

et al., 1980: 550-551, see 1.2.2.3). Furthermore, while most diminutives are used according to the adult model at this stage, like *hond-je* ('doggy'), other forms are idiosyncratic, like *toen-tje* ('small then') (Schaerlaekens, 1977: 156).

During the third stage, a gross overgeneralization of diminutives can be observed. It has been reported that 90% of all substantives occur in the diminutive form during this phase. As such, it is clear that children do not linguistically distinguish between small and large entities at this point (Schaerlaekens, 1977: 156).

In the fourth, and final, stage the proportion of diminutives is brought down again. It is in this last phase stage that children start using diminutives in a target-like fashion. There is a general consensus that children reach this stage between 2;7 and 2;11 (Schaerlaekens, 1977: 156).

In conclusion, diminutives are one of the earliest morphological distinctions to be acquired and are very frequent in both child Dutch and the linguistic input Dutch-speaking children receive. At the same time, there is a lack of research regarding later developments, such as the mastery of diminutive allomorphy. It has been reported that *–kje* and *–pje* are among the latest developments, but this observation is yet to be substantiated. Similarly, no research is available that examines the semantic interpretations diminutives receive in child Dutch.

3.5.3 English diminutive formation

English nouns can be morphologically inflected to form diminutives, but this process is far less productive than in Dutch. In order to indicate the diminutive, the suffix /-i:/ is used, orthographically realized as *–y or –ie*: *dogg-ie* or *dadd-y*. The difference between these diminutive suffixes appears to be purely a matter of spelling, with *–y* being preferred in American English and *–ie* in British English. Although diminutives are slightly more common in British than American English, the use in both language variants is largely restricted to intimate discourse, notably 'baby talk' (Quirk et al., 1985: 1584). In Australian English, by contrast, diminutives are much more prevalent and very much associated with male interaction (cf. Goddard & Wierzbicka, forthc.).

3.5.4 The attrition of Dutch diminutive formation

The properties of Dutch diminutive inflection are summarized in Table 3.9.

Table 3.9: Properties of Dutch diminutive inflection

	general	**-tje**	**-je**	**-etje**	**-pje/-kje**
acquisition	1;0-7;0	early	early	mid	late
conditioning	semantic/ phonological	phonological	phonological	phonological	phonological
frequency	high	high	mid/high	lower	lower
functionality	yes[10]	no	no	no	no
L2 equivalent	yes	no	no	no	no

The differences between the five diminutive allomorphs lie in their stage of acquisition and frequency of occurrence. As the underlying diminutive marker, *–tje* is very frequent and emerges relatively early in child Dutch. It is thus likely to show resilience to loss. Similarly, *-je* also stands a good chance against attrition. In line with the acquisition literature, the two least likely candidates to be retained in attrition are *–pje* and *–kje*. No studies on the attrition of Dutch have tested these hypotheses.

3.5.5 Predictions regarding the regression hypothesis and diminutive formation

The findings on Dutch diminutive formation presented so far can be summarized by means of the following implicational hierarchy:

zero diminutive marking	<	diminutive inflection (where *–tje* is overgeneralized)	<	other diminutive allomorphs (where *–kje* and *–pje* emerge last)

[10] The use of diminutive markers itself is functional, but a wrong selection of diminutive suffix does not result in a loss of information. Consequently, the individual diminutive markers cannot be regarded as functional.

In short, language development appears to proceed from simple to more complex and from frequent to more sporadic. Attrition is then predicted to show the mirror image: the least frequent and more complex diminutive suffixes may be lost earlier than their simpler and frequent counterparts.

3.6 Summary

The variation found in the acquisition and attrition of Dutch noun phrase morphology is not random, but instead is likely to show parallels that can be captured by means of implicational hierarchies. This has been partially substantiated by the data from language shift in Iowa Dutch. By way of a summary, the hierarchies of all five noun phrase morphological aspects under investigation are reproduced:

Plural inflection:

zero plural marking	<	*-s* and *–en* plural suffixes (where *–s* is typically overgeneralized)	<	irregular plural forms

Agentive formation:

zero agentive marking	<	*-er/-aar* agentive suffixes (where *–er* is typically overgeneralized)	<	irregular forms (e.g. feminine allomorphs)

Article selection:

no articles	<	the indefinite article *een*	<	the definite article *de*	<	the distinction between definite and indefinite reference (indicated by means of either *een* or *de*)	<	the definite article *het*

Adjectival inflection:

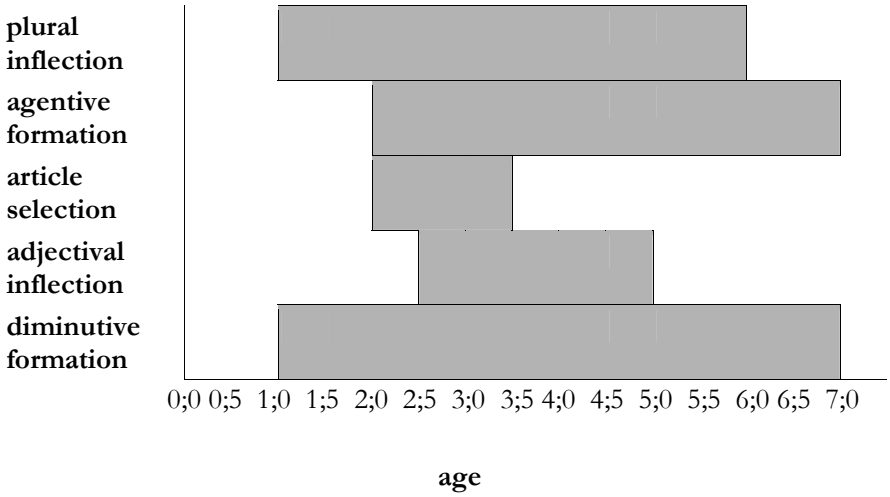
analytic means to indicate degree forms	<	inherent adjectival inflection (where irregular forms with stem allomorphy emerge last)	<	contextual adjectival inflection (where *–e* is overgeneralized and exceptions (Type I, II, III) are acquired last)

Diminutive formation:

zero diminutive marking	<	diminutive inflection (where *–tje* is overgeneralized)	<	other diminutive allomorphs (where *–kje* and *–pje* emerge last)

As the data in this study are approached from an acquisitional perspective, the factor of age of acquisition is essential. Table 3.6 summarizes the different stages of acquisition of the five noun phrase morphological features under investigation. As can be seen, particular problems may be expected in agentives and diminutives. Plural inflection, article selection and adjectival selection, on the other hand, should be relatively robust in attrition due to their early acquisition and relatively short path of development.

Table 3.6: Acquisitional patterns in Dutch noun phrase morphology



Chapter 4

Implicational Hierarchies in the Acquisition and Attrition of Dutch Verb Phrase Morphology

This chapter investigates the language acquisition of Dutch verb phrase morphology and formulates predictions about attrition of verb phrase morphological phenomena in Dutch on the basis of it. Five features in particular are examined: simple present tense, simple past tense, past participles, auxiliary selection and future tense. The hypothesized mirror symmetries between acquisition and attrition again take the form of implicational hierarchies.

4.1 Simple present tense

4.1.1 Dutch simple present tense

Dutch distinguishes three forms in the present tense paradigm: first person singular, second and third person singular and plural forms, all of which are expressed by the absence or presence of suffixation (de Houwer & Gillis, 1998: 28). By means of example, Table 4.1 presents the indicative mood paradigm of the Dutch verb *koken* ('to cook'), with its stem in *kook*[11].

[11] This is a case of vowel lengthening.

Table 4.1: The indicative simple present tense paradigm of koken ('to cook') (Booij, 2002: 55)

		simple present tense
singular	**1**	*ik*[12] *kook-Ø*
	2	*jij kook-t*
	3	*hij/zij/het kook-t*
plural	**1**	*wij kok-en*[13]
	2	*jullie kok-en*
	3	*wij kok-en*

The form in the first person singular equals the verb stem, whereas both the second and third person singular persons receive a *–t* suffix. Where the verb stem ends in *–t* by default, no additional *–t* affix is attached for the second and third person singular: *plet* ('flatten'): *jij plet* ('you flatten') (de Houwer & Gillis, 1998: 28). The second person singular presents a special case, because it exhibits syntactically conditioned allomorphy (Booij, 2002: 58). When the personal pronouns *je* and *jij (*weak and strong forms of 'you', respectively*)* are in post-verbal position, the verb stem is used: *kook-Ø jij?* (cook you? – 'do you cook?') as opposed to *jij kook-t* ('you cook') (Booij, 2002: 58; Smits, 1996: 68). Finally, no person distinctions are attested in the plural, making plural forms identical to infinitives (Smits, 1996: 68).

Most simple present tense forms follow the regular paradigm in that they are predictable on the basis of the verb stem, but there are some notable exceptions. Two of the most prevalent ones are the auxiliaries *zijn* ('to be') and *hebben* ('to have'), which are presented below (Tables 4.2 and 4.3).

[12] The personal pronouns are also indicated in these tables. The Dutch personal pronouns are *ik* ('I'), *jij* ('you'), *hij/zij/het* ('he/she/it'), *wij* ('we'), *you* ('you-PL'), and *zij* ('they').

[13] In spoken interaction, the final nasal sound is typically left unpronounced, and is reduced to an orthographic feature only. This phonological process is known as apocope of syllable-final *–n* (Smits, 1996: 97).

Table 4.2: The indicative simple present tense paradigm of zijn ('to be') (Smits, 1996: 70)

		simple present tense
singular	**1**	*ik ben*
	2	*jij bent*
	3	*hij/zij/het is*
plural	**1**	*wij zijn*
	2	*jullie zijn*
	3	*zij zijn*

Table 4.3: The indicative simple present tense paradigm of hebben ('to have') (Smits, 1996: 70)

		simple present tense
singular	**1**	*ik heb*
	2	*jij hebt*
	3	*hij/zij/het heeft*
plural	**1**	*wij hebben*
	2	*jullie hebben*
	3	*zij hebben*

The inflectional paradigms of Dutch modal auxiliaries, *kunnen* ('can'), *mogen* ('may'), *willen* ('want') and *zullen* ('will'), also differ from the regular one. They exhibit stem alternation between the singular and plural, exemplified in *ik kan* ('I can') versus *wij kunnen* ('we can') (Smits, 1996: 69). Moreover, the second and third person singular forms of these modals resemble the first person singular in that none of them contains suffixation: *ik kan-Ø* ('I can'), *jij kan-Ø* ('you can'), *hij kan-Ø* ('he can'). Despite these few notable exceptions, however, simple present tense inflection in Dutch is highly categorical.

4.1.2 The acquisition of Dutch simple present tense

The first verb phrases in Dutch-speaking children typically only contain one lexical verb, which tends to take the form of 'stem + *-en*', as in *koken* ('cook') (de Houwer & Gillis, 1998: 30). The general consensus appears to be that children have not yet analyzed such verbs as infinitives and early verb forms are therefore referred to as root infinitives (Blom, Krikhaar & Wijnen, 2001). The

first verb to be inflected is generally *doen* ('to do'), exemplified in (1) (Schaerlaekens, 1977: 158).

1) *mijn papa doet ook werken*
my daddy do-3SG also work-INF
'my daddy also works'

By the time more complex verb phrases emerge (around 2;5), more than one verbal element may occur in the same utterance[14]. At this stage, the first two elements that enter the child's repertoire tend to be either a tensed auxiliary followed by a past participle or a modal plus an infinitive. Examples of these two phenomena are *ik heb gekookt* ('I have cooked') and *ik wil koken* ('I want to cook') (de Houwer & Gillis, 1998: 31-32).

Across the board, Dutch-speaking children tend to produce the same deviations in the development of verb phrase inflection, which can all be traced back to an attempt at creating more surface regularity. The most widely attested deviation is the overgeneralization of the *–t* suffix for all singular persons, including the first, as in *ik *kook-t* ('I cook'), which in standard Dutch is *ik kook-Ø*). Furthermore, children frequently add *–t* in contexts where the second person pronoun follows the verb. Thus, we find structures like **doe-t jij?* ('do you?') for the standard *doe-Ø jij?* (Extra, 1978: 60).

The development of irregular present tense forms takes place in an even slower fashion. The mastery of the correct paradigm of the auxiliary *zijn* ('to be'*),* for example, reveals an effortful process that is often not complete at 4;0 (de Houwer & Gillis, 1998: 34). Children also typically have difficulty with the paradigm of modal auxiliaries until late in their linguistic development and forms like *hij *kunt* for the standard *hij kan* ('he can') are frequently attested in child Dutch. Thus, while the regular present tense paradigm is generally believed to be in place by 4;0 (de Houwer & Gillis, 1998: 33-34), it takes considerably longer for the correct irregular paradigm of auxiliaries and modals to emerge.

[14] Before children can arrive at this stage, they must have a basic understanding of how word order works in Dutch (see also 5.3.1 and 5.3.2), because the acquisition of finiteness and word order are intrinsically linked.

4.1.3 English simple present tense

English present tense verbs have two forms: the base form that is used for all persons and all numbers *(cook*[15]*)* and the *–s* form that is only used in the third person singular: *cook-s* (Quirk et al., 1985: 97). English thus has markedly less present tense morphology than Dutch. The sole inflection to mark the third person singular completely disappears in modals. We thus find *I can* alongside *he can-Ø*. The weak present tense conjugation of the verb *cook* is presented in Table 4.4.

Table 4.4: The indicative simple present tense paradigm of English cook

		simple present tense
singular	**1**	*I cook*
	2	*you cook*
	3	*he/she/it cook-s*
plural	**1**	*we cook*
	2	*you cook*
	3	*they cook*

Unlike Dutch, modal auxiliaries follow the same conjugation as regular verbs and only undergo a stem change in their past tense. In other words, whereas Dutch contrasts *ik kan* ('I can') and *wij kunnen* ('we can') (see 41.1), English does not make this distinction: *I can* and *we can.* The only verb that does show stem alternation is *to be,* as illustrated in Table 4.5. This paradigm does not show the typical third person singular *–s* inflection either.

[15] The English verb stem is identical to its infinitive.

Table 4.5: The indicative simple present tense paradigm of English to be

		simple present tense
singular	**1**	*I am*[16]
	2	*you are*
	3	*he/she/it is*
plural	**1**	*we are*
	2	*you are*
	3	*they are*

4.1.4 The attrition of Dutch simple present tense

Table 4.6 summarizes the Dutch simple present tense system.

Table 4.6: Properties of Dutch simple present tense

	general	**regular inflection -t singular**	**regular inflection -en plural**	**irregular present tense inflection**
acquisition	<2;5-5;0	mid	early	late
conditioning	semantic/ morpho-syntactic	morpho-syntactic	morpho-syntactic	morpho-syntactic
frequency	high	high	high	mid
functionality	yes[17]	no	no	no
L2 equivalent	yes	no	no	yes

In the light of the regression hypothesis, the order of acquisition predicts that the irregular inflectional paradigm is most susceptible to loss, as it is among the latest acquired features of simple present tense. At the same time, however, certain irregular present tense forms, such as those of *to be,* are so frequent that their loss seems unlikely. In other words, they have become entrenched, making them more resilient to loss (see also 1.2.2.4). Second, as the singular *–t* suffix

[16] In yes-no interrogatives that include a tag element, this form appears as *are: I am staying, aren't I?*

[17] The distinction between the present and the past is functional, but the contrast between different present inflections is not, as an omission or substitution does not cause a loss of information.

tends to be generalized to all first persons in acquirers, this may also be true for attriters. This then includes inversion contexts (see 4.1.1). The regular forms, being acquired earlier, are predicted to show least signs of erosion.

Some of these predictions were borne out by the data on language shift in Iowa Dutch (Smits, 1996), where internal restructuring was found. During the initial stages of language shift, leveling was found in modals which normally show irregular inflection. The singular was used as the base form for the plural without any vowel alternation, resulting in forms such as **kanne* and **magge*[18] (based on the singular forms *kan* and *mag)* rather than the standard *kunnen* ('can') and *mogen* ('may'). This reduction of allomorphy was found to result in more surface regularity (Smits, 1996: 84).

As the language shift in Iowa Dutch continued, periphrastic constructions became more prevalent, which might be indicative of linguistic erosion. The use of periphrastic structures allows for an avoidance of person, number and tense inflection on lexical verbs (Smits, 1996: 176). The constructions that were predominantly found consisted of a tensed auxiliary followed by an infinitive complement or a past participle, as in *ik zal tekenen* ('I will draw'), which are also found in early stages of child Dutch (see 4.1.2).

External forces have also been identified in the changes in Iowa Dutch. One of the most prevalent L2 English influences was the use of zero inflection across the paradigm, resulting in forms like *wij *kook-Ø* for *wij kok-en* ('we cook'). It is likely that this has been influenced by the fact that English uses the same forms for all persons and numbers, apart from the third person singular.

Overall, there was an increase of tenseless verbs such as infinitives, past participles and verb stems, all leading to a reduction of morphological distinctions (Smits, 1996: 90-91).

The English third person *–s* ending was used in Dutch contexts in more advanced stages of language shift. Structures like *hij *zing-s* ('he sings') were observed, but also *ik *luister- s* ('I listen') (Smits, 1996: 176), where standard Dutch has *hij zing-t* and *ik luister-Ø,* respectively.

On the whole, the language shift patterns in Iowa Dutch are characterized by a reduction in morphologically marked categories in favor of a more regular present tense paradigm. The cause of this tendency appears to be twofold: internal remodeling and external (L2-related) forces.

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[18] The phonological process of apocope of syllable-final *–n* is at work here.

4.1.5 Predictions regarding the regression hypothesis and simple present tense

Acquisition and language shift show a number of parallels with respect to Dutch simple present tense inflection. The provisional data with respect to language shift can in turn serve as indications for the expected tendencies in language attrition. The similarities are captured in the following implicational hierarchy:

zero present tense marking	<	tensed modals and auxiliaries	<	regular present tense inflections (where *–t* is generalized to all singular persons)	<	irregular present tense inflection (notably *zijn, hebben* and the modals *kunnen, mogen, willen, zullen*)

4.2 Simple past tense

4.2.1 Dutch simple past tense

Dutch uses the simple past tense to refer to events in the distant past. An important distinction in past tense reference is that between weak and strong verbs. Weak verbs form their past tense by attaching one of two suffixes to the stem of the verb: *-te* or *-de*. These suffixes are in complimentary distribution: *-te* is selected after stems that end in a voiceless segment (a fricative or stop), and *–de* is selected after voiced segments (a vowel, sonorant, consonant or voiced obstruent) (Booij, 2002: 57). As *–de* is more frequent than *–te,* it has been referred to as the default past tense marker (Booij, 2002: 57-58). The selection mechanism can be illustrated by means of the verbs *tobben* ('to toil') and *kappen* ('to cut'). The stem of the verb *tobben, tob,* ends in a voiced segment and

therefore forms its past tense in *tob-de*. The stem *kap* ('cut'), by contrast, ends in a voiceless segment and as such has its past tense in *kap-te* (Booij, 2002: 57).

Dutch past tense inflection does not distinguish between the first person singular on the one hand and the second and third person singular on the other the way simple present inflection does (4.1.1.), but the singular/plural distinction is maintained. In the plural, an additional *–n* is added, resulting in the suffixes *–den* and *–ten,* respectively (Smits, 1996: 72): *tob-den* and *kap-ten*. Thus, Dutch simple past tense inflection does not show person agreement, but exhibits inherent tense and contextual number inflection. The past tense paradigm for the verb *koken* ('to cook') is presented in Table 4.7.

Table 4.7: The indicative simple past tense paradigm of koken ('to cook') (Booij, 2002: 55)

		simple present tense
singular	**1**	*ik kook-te*
	2	*jij kook-te*
	3	*hij/zij/het kook-te*
plural	**1**	*wij kook-te-n*
	2	*jullie kook-te-n*
	3	*zij kook-te-n*

Strong verbs do not form their past tense by means of suffixation. Instead, they undergo a stem alternation, known as gradation. It may be misleading to refer to this class of verbs as irregular, because regular-like patterns can still be observed (Booij, 2002: 59). These similarities result in four types of stem-alternating verb classes.

Verbs in strong declension class number 1, comprising most stem-alternating verbs in Dutch, undergo a vowel change. They can be further subdivided into verbs whose past tense stem is identical to the stem in the past participle (subclass 1); verbs whose present tense stem and past participle stem coincide, but which undergo a vowel change in the simple past tense (subclass 2) and, finally, subclass 3 verbs whose stem changes from the present to the past to the past participle. Examples of verbs belonging to class 1 are given in Table 4.8.

Table 4.8: Examples of class 1 of strong verbs in Dutch (Booij, 2002: 59-60)

	infinitive	**stem**	**simple past**	**past participle**
subclass 1	*wegen* 'to weigh'	*weeg* 'weigh'	*woog* 'weighed'	*gewogen* 'weighed'
subclass 2	*lopen* 'to walk'	*loop* 'walk'	*liep* 'walked'	*gelopen* 'walked'
subclass 3	*helpen* 'to help'	*help* 'help'	*hielp* 'helped'	*geholpen* 'helped'

The second set of stem-alternating verbs consists of verbs that exhibit vowel lengthening in the past tense, with a short vowel in the singular and a long one in the plural. An example of such a verb is *lezen* ('to read'), with its stem in *lees*. The past tense singular of this verb is *las* (/lɑs/), but its past plural is *lazen* (/'laːzən/). The past participle, in turn, is *gelezen* (/ɣə'leːzən/) (Booij, 2002: 59-60).

In the third class of stem-alternating verbs it is not only the vowel that undergoes a change, but also the consonant. Within this set, there is a considerable amount of variation. Two examples of verbs belonging to this category are *brengen* ('to bring') and *verliezen* ('to lose') (Booij, 2002: 59-61), both of which are illustrated in Table 4.9.

Table 4.9: Examples of class 3 of strong verbs in Dutch (Booij, 2002: 59-60)

	infinitive	**stem**	**simple past**	**past participle**
example 1	*brengen* 'to bring'	*breng* 'bring'	*bracht* 'brought'	*gebracht* 'brought'
example 2	*verliezen* 'to lose'	*verlies* 'lose'	*verloor* 'lost'	*verloren* 'lost'

Fourth, and finally, there is a group of verbs whose infinitives do not contain a schwa: they do not end in *–en,* but in *–n*. Example are *doen* ('to do'), which has its past tense (singular) in *deed* ('did') and *zien* ('to see') with its past tense singular in *zag* ('saw') (Booij, 2002: 61).

There is a small number of irregular verbs that cannot be grouped under any of the four classes, but are completely unpredictable. They are the auxiliaries *zijn* ('to be') and *hebben* ('to have'), as well as the modals *kunnen*

('can'), *mogen* ('may') and *zullen* ('will') (Booij, 2002: 62). An overview of all these verbs is given in Table 4.10.

Table 4.10: Examples of irregular verbs in Dutch

infinitive	**stem**	**simple past SG**	**simple past PL**	**past participle**
zijn 'to be'	*ben* 'am'	*was* 'was'	*waren*[19] 'were'	*geweest* 'been'
hebben 'to have'	*heb* 'have'	*had* 'had'	*hadden* 'had'	*gehad* 'had'
kunnen 'can'	*kan* 'can'	*kon* 'could'	*konden* 'could'	*gekund* -[20]
mogen 'may'	*mag* 'may'	*mocht* 'might'	*mochten* 'might'	*gemogen* -
zullen 'will'	*zal* 'will'	*zou* 'would'	*zouden* 'would'	-[21] -

Weak past tense formation, being predictable, constitutes the unmarked case in Dutch, which means that new words, such as loanwords, almost invariably follow the weak conjugation. For example, the past tense of the verb *mail* ('to send an e-mail') is *mail-de* (Booij, 2002: 62-63). Any shift in the verbal paradigm tends to be unidirectional, from strong to weak. For example, the verb *scheren* ('to shave') used to belong to the class of strong verbs with its past tense in *schoor*. The past tense form *scheer-de* is now accepted alongside *schoor*, although the past participle is still predominantly *geschoren* (Booij, 2002: 63). In sum, Dutch simple past tense may contain much regularity, but at the same time forms a complex system.

4.2.2 The acquisition of Dutch simple past tense

The simple past tense tends to emerge relatively late in Dutch-speaking children, its acquisition being linked to the acquisition of finiteness, which

[19] the past tense of *zijn* is the only one in the category of irregular verbs that exhibits a change in vowel quality between the singular and plural past tense forms: *ik was (/was/)* versus *wij waren (/wa:rə(n)/).*

[20] None of the modal auxiliaries have past participle forms in English.

[21] *Zullen* does not have a past participle form for semantic reasons: something could not have taken place in the future.

usually takes place around 3;0 (see 5.3.2). At age 4;0, there are surprisingly few occurrences of simple past tense forms (de Houwer & Gillis, 1998: 35) and the mastery of strong past tense forms takes even longer: it is usually not complete by 6;0 (Schaerlaekens, 1977: 163).

Several reasons can be identified for this late appearance, most notably the cognitive load involved. Young children prefer to talk about the here and now and only refer to events and situations outside the immediate discourse setting at a later point in their linguistic development (Schaerlaekens, 1977: 158-159). Related to this is the fact that the immediate past, marked by the perfect, precedes the more distant past, which is denoted by the simple past tense. Thus, we may find forms like *ik heb gerend* ('I have run') in children's repertoires, while instantiations like *ik ren-de* ('I ran') are not found until later (Schaerlaekens, 1977: 159). The first instances of simple past tense in child Dutch can be classified as *irrealis* forms and are attested in early role play or fantasy games, illustrated in (2) (Schaerlaekens, 1977: 159).

2) *jij was een krokodil*
you be-SG.PST a crocodile
'you were a crocodile'

In their mastery of strong past tense morphology, Dutch-speaking children tend to pass through three consecutive stages. In the first of these, they initially produce the correct past tense form of strong verbs, but this use appears to be largely unanalyzed, as it is followed by a second stage in which the productive, weak inflectional rule is generalized to all contexts, including strong verbs that used to be produced correctly as chunks. Typical mistakes that are found at this second, generalization stage are **breek-te* for *brak* ('broke') or **val-de* for *viel* ('fell') (Schaerlaekens, 1977: 160). In the third and final stage of acquisition, children typically acquire both the weak declension rule and the exceptions to the rule. This whole process is known as *U-shaped development* and has been found in numerous languages and inflectional contexts (MacWhinney, 1998). *U-shaped* development in general is indicative of a complex system where both rules and exceptions are learned. Verbs that are especially frequent in the input find their way into the child's repertoire as chunks. Examples of such highly frequent past tense verbs in Dutch are *at* ('ate'), *sliep* ('slept') and *viel* ('fell') (Schaerlaekens, 1977: 161, see also 1.2.2.2 and 1.2.2.4 on item-based

learning and entrenchment). It has been reported that Dutch-speaking children go through an additional stage between the second and third phases in which they use the standard strong form, but nonetheless still add a regular past tense marker: **kwam-de* ('came') instead of *kwam* or **zong-de* ('sang') for *zong* (Schaerlaekens, 1977: 161).

Non-standard past tense formation continues to occur throughout primary school, especially in less frequent verbs. A common source of mistakes is the interference between different sets of strong verbs, resulting in forms like **stook* as the past tense of the stem *steek* ('stab'), where the correct form is *stak* (Schaerlaekens, 1977: 160).

The relatively late acquisition of the simple past tense in children reflects the complexity of the system, but is also likely to have its origin in the co-occurrence of analytic past tense forms in *ik ben gekomen* ('I have come'), which enter the child's repertoire before the synthetic form *ik kwam* ('I came'), as the immediate past is more salient for young children then the more distant past. In addition, analytic forms in general tend to precede synthetic forms.

4.2.3 English simple past tense

Past tense verbs in English only show inherent tense inflection and do not exhibit any number or person agreement. Like Dutch, English also distinguishes weak and strong past tense marking. Weak verbs receive the suffix *–ed (cook – cook-ed)*[22], whereas strong verbs frequently exhibit gradation, as in *speak – spoke* (Quirk et al., 1985: 96-97). Virtually all strong verbs in English can be placed in one of seven strong declension classes (cf. Quirk et al., 1985: 103-114), but notable exceptions are irregular verbs, such as *to be,* with the forms *was* (singular) and *were* (plural). As opposed to Dutch, there is a small number of English verbs whose members have both a weak form and a strong variant, for example *to burn,* which has both *burned* and *burnt* (Quirk et al., 1985: 103). On the whole, the categories of weak and strong inflection that are distinguished in Dutch also exist in English. However, the surface realization of these categories is notably different in both languages: English only has one weak past tense

[22] The *–ed* past tense marker is typically devoiced in English: *worked (/werkt/).*

suffix, whereas Dutch has two. Similarly, the English strong tense categories display different patterns of vowel gradation than their Dutch counterparts.[23]

4.2.4 The attrition of Dutch simple past tense

Table 4.11 presents an overview of Dutch simple past tense.

Table 4.11: Properties of Dutch simple past tense

	general	**weak past tense inflection (*-de(n)/-te(n)*)**	**strong past tense inflection**
acquisition	3;0-6;0	mid	late
conditioning	semantic/ phonological/ morpho-syntactic	phonological	morpho-syntactic
frequency	high	high	mid
functionality	yes[24]	no	no
L2 equivalent	yes	yes	yes

As weak past tense markers are acquired before their strong counterparts and are also more frequent, they stand a better chance against attrition than strong past tense inflection. More specifically, children's initial analytic way of denoting the past may also be attested in the speech of attriters, with periphrastic perfect forms taking over the function of simple past tense occurrences.

The closest available evidence for the attrition of Dutch in an L2 English environment comes from the language shift data on Iowa Dutch (Smits, 1996). The observed changes can be separated into internal remodeling and externally-induced change. To start with internal restructuring, the first stage of language shift (data sample from 1966) showed a development towards a more regular system. Both *–te* and *–de* were generalized to strong contexts, resulting in forms

[23] It has been claimed that approximately 5% of all English verbs is strong, against 95% weak verbs (see Schmid, 2002: 133). The numbers for Dutch are less clear, but given that German has a division of 50% strong and 50% weak (Schmid, 2002: 133), it is likely that Dutch is somewhere in between English and German, as is frequently the case linguistically.

[24] The use of the simple past versus other tenses, such as the simple present, is functionally motivated, but the distinction between the weak and strong declension groups within the simple past is not, as an error in their use does not lead to miscommunication or loss of information.

like **hang-de* for *hing* ('hung') (Smits, 1996: 93). There was also some evidence for paradigm leveling, for example in the case of the strong paradigm of *zijn* ('to be'). Singular forms were often used as a model for the construction of plural forms: the singular *was* ('was'), for instance, served as a base to which the plural marker *–en* was attached, resulting in **wasse*[25]. Conversely, singular forms were occasionally modeled on plural forms through a process of back formation: *waren* ('were') was stripped of its plural ending and used in the singular, resulting in **waar* (Smits, 1996: 94).

Regularization processes were also found in the set of verbs that undergo a consonantal alternation in standard Dutch (strong verb class 3, see 4.2.1). While the standard past tense of *komen* ('to come') is *kwam* ('came'), the form **kame* was attested in Iowa Dutch, possibly under the influence of English *came* (Smits, 1996: 94-95, see below).

At more advanced stages of language shift (1989 data sample), similar tendencies towards internal reorganization were observed, although the change had spread and now involved more verbs. What was new was the introduction of periphrastic constructions as replacements for simple past tense. In particular, the perfect form was used in simple past contexts: instead of *ik droomde* ('I dreamed') forms like *ik heb gedroomd* ('I have dreamed') were attested (Smits, 1996: 181). Such periphrastic constructions allow for a reduction of past tense morphology.

L2 influences were observed in Iowa Dutch as well, one of which was the overgeneralization of *–te* at the expense of *–de*. This was ascribed to influence from English, as English typically devoices its *–ed* past tense marker, making it phonologically more similar to Dutch *–te* than *–de* (Smits, 1996: 95). The *–te* marker was even added to past tense forms that already contained the *–te* morpheme, which was apparently no longer perceived as an indicator of past tense. Speakers of Iowa Dutch were thus found to produce forms like *bak-te-t* ('baked') (Smits, 1996: 95). This phenomenon was only found for the third person singular: English *–ed* somehow combined with Dutch *–te* to form the suffix *–tet* (Smits, 1996: 96). Other deviations that were found included the use of the first person singular to denote the plural, as in *jullie *zwom-Ø* (you-PL

[25] *-n* is dropped because of syllable final *–n* apocope, see earlier footnote.

swim-SG.PST, 'you swam') instead of the standard *jullie zwom(m)-en*[26] (Smits, 1996: 97).

Iowa Dutch has thus undergone quite a number of changes, all of which appear to be in the direction of a more regular system at the expense of irregular simple past tense morphology. Perhaps the ultimate shift scenario is one where the simple past tense is abandoned completely in favor of periphrastic (perfect) constructions.

4.2.5 Predictions regarding the regression hypothesis and simple past tense

Acquisition and language shift in Iowa Dutch are both characterized by a tendency to create a simple past tense system that exhibits a high degree of surface regularity. Similar tendencies can therefore be expected for attrition. The mirror symmetry is summarized by means of the following implicational hierarchy:

zero past tense marking (verb stems)	<	periphrastic (perfect) constructions	<	weak past tense inflection (where *–te(n)* and *–de(n)* are not discriminately used at first)	<	strong past tense inflection

4.3 Past participles

4.3.1 Dutch past participles

Dutch past participles typically occur in periphrastic or complex constructions that also contain an auxiliary and that as a whole relate the events or situation denoted by the verb in the past (Booij, 2002: 66, see 4.4.1). It is in these contexts that past participles acquire perfective aspect, which can be interpreted

[26] The mid-word consonant undergoes duplication here because it follows a short vowel.

as the action having been completed (Booij, 2002: 67)[27]. Alternatively, past participles can be part of passive constructions (see 5.2.1).

The weak/strong distinction apparent in the simple past also applies here. The past participles of weak verbs are formed by means of the prefix *ge-,* followed by the verb stem plus either *–t* or *–d.* In cases where the verb is already felt to contain a prefix, no additional *ge-* is added. This happens in cases like *ver-dienen* ('to earn'), which has its past participle in *ver-dien-d.* Another example is *ge-loven* ('to believe'): *ge-loof-d.*

The distribution of *–t* and *–d* is governed by the same selection mechanism that was found to underlie the simple past tense: when the stem ends in a voiceless segment, *-t* is inserted, while *–d* is reserved for verb stems that end in a voiced segment (see 4.2.1). In contrast to the simple past, however, the outcome of the *-d* and *–t* selection in past participles is purely orthographic due to the final devoicing of /d/ in Dutch. By means of example, the past participle form of the stem *kap* ('cut') is *ge-kap-t,* whereas the past participle of *tob* ('toil') is *ge-tob-d* (Booij, 2002: 57), but the final segments of both participles are pronounced in the exact same way. The *ge-* + stem + *-d* construction is the more frequent one and new, loaned items therefore automatically follow this pattern, as in *mail* ('send an e-mail') - *ge-mail-d* (Booij, 2002: 62-63).

Past participle forms of strong verbs can be grouped under the same four classes of strong verbs that were distinguished with respect to the simple past. The stem of the verbs that belong to these classes undergoes a change, but the characteristic prefix *ge-* is retained in all instances. Rather than the weak *–t/-d* suffix, *–en* is attached to the majority of these strong verb stems (Booij, 2002: 59). Table 4.12 gives an overview of all strong verb classes in Dutch and focuses particularly on their past participle forms.

[27] While English has a clear aspectual difference between the simple past tense and periphrastic past constructions, this distinction is less clearly perceived in Dutch. The different between immediate and distant past, however, is clearly implied (see 4.2.1).

Table 4.12: Overview of the past participles of the strong verb classes in Dutch

verb class	infinitive	stem	simple past	past participle
1: vowel-alternating verbs	*wegen* 'to weigh'	*weeg* 'weigh'	*woog* 'weighed'	*ge-wog-en* 'weighed'
2: vowel-lengthening verbs	*lezen* 'to read'	*lees* 'read'	*las* 'read'	*ge-lez-en* 'read'
3: consonant-alternating verbs	*brengen* 'to bring'	*breng* 'bring'	*bracht* 'brought'	*ge-brach-t* 'brought'
4: infinitive in -n verbs	*doen* 'to do'	*doe* 'do'	*deed* 'did'	*ge-daa-n* 'done'
5: irregular verbs	*zijn* 'to be'	*ben* 'am'	*was* 'was'	*ge-wees-t* 'been'

In a number of cases, no gradation is found in the past participle where the past tense does exhibit stem alternation. An example is the stem *jaag* ('hunt'), with its past tense in *joeg,* but whose past participle is *ge-jaag-d* (Booij, 2002: 62). Furthermore, there are a number of verbs whose past participle forms are unpredictable, for example *zijn* ('to be') – *ge-wees-t* ('been'). On the whole, past participle forms in Dutch show quite a few regularities, but also constitute a complex system that follows a different conjugation depending on whether the verb in question belongs to the weak or strong declension class.

4.3.2 The acquisition of Dutch past participles

Dutch-speaking children start using bare past participles, without accompanying auxiliaries, before the age of 2;5. Between 2;5 and 4;0, they typically start to expand their verb phrases and past participle forms are attested more frequently, usually in combination with an auxiliary to form periphrastic constructions (de Houwer & Gillis, 1998: 32). As noted before, the acquisition of past participles precedes that of the simple past tense, presumably because it refers to the immediate past rather than the distant past and is therefore more salient for children.

In their development of past participle formation, Dutch-speaking children produce numerous deviant forms, both in the strong and the weak

declensions. There is some evidence to suggest that deviations in past participles are among the most frequently occurring idiosyncratic forms in child Dutch and may persist until the age of 9;0 (de Houwer & Gillis, 1998: 33-35).

In particular, the prefix appears to be difficult for children. Cross-linguistically, children acquire suffixes or postpositions before they master prefixes or prepositions, probably because most morphological marking occurs word-finally (Slobin, 1973 in Extra, 1978: 62-63), and Dutch morphology is no exception. In their search for morphological information, children will thus be more focused on the end of a word than on its beginning (Extra, 1978: 62). In child Dutch, this may result in the prefix being reduced, for example in **egeten* for *gegeten* ('eaten') (Extra, 1978: 62) or **daan* rather than *gedaan* (Wijnen & Verrips, 1998: 230).

Other common deviations found in child Dutch include the use of weak inflections for strong verbs, as in **ge-stierf-t* for *ge-storv-en* ('died') (Extra, 1978: 64). As in the acquisition of the simple past tense, children typically follow a U-shaped development in their acquisition of strong past participles (the correct form is initially used, followed by a period of rule overgeneralization, before the idiosyncratic strong forms occur alongside the weak ones), which is indicative of a complex system in development. In conclusion, past participle formation appears to be a late development in Dutch-speaking children.

4.3.3 English past participles

English past participles, like their Dutch equivalents, can be classified according to the distinction between weak and strong verbs. One important difference between the two languages, however, is that English past participles do not contain a prefix like the Dutch ones. Instead, the surface form of past tenses and past participles is often identical in English, notably in the case of weak verbs. Thus, we have *he walked* and *he has walked.* (Quirk et al., 1985: 96-97).

Past participle forms of strong verbs exhibit the same gradation as past tense instantiations. The exact form of the past participle depends on which of the seven strong verb classes the verb in question belongs to, but most strong past participles end in *–n: chose-n, spoke-n* (Quirk, 1985: 103).

English past participle forms have been described as denoting "past with current relevance"(Quirk et al., 1985: 192). Although many contexts allow both the simple past and past participle, they are not interchangeable. For example,

whereas *where have you put my purse?* relates the action directly to the present time, the simple past counterpart, *where did you put my purse?,* does not have the same effect[28] (Quirk et al., 1985: 192). In short, Dutch and English may share the category of past participles, but the surface realization of such forms is markedly different in the two languages.

4.3.4 The attrition of Dutch past participles

Table 4.13 summarizes the system of Dutch past participles.

Table 4.13: Properties of Dutch past participles

	general	**weak past tense inflection (*ge-*+stem +*-d/-t*)**	**strong past tense inflection**
acquisition	2;5-9;0	early/mid	late
conditioning	semantic/ phonological/ morpho-syntactic	phonological	morpho-syntactic
frequency	high	high	mid
functionality	yes[29]	no	no
L2 equivalent	yes	yes[30]	yes

The developmental path in acquisition is a long one, with difficulties still occurring as late as 9;0. Furthermore, the productive use of weak past participles emerges earlier than strong forms, which leads to the prediction that weak past participle forms are less vulnerable to attrition than their strong counterparts.

Some of these tendencies were investigated in the changes within Iowa Dutch (Smits, 1996). Shifts were found in the repertoires of Iowa Dutch speakers, but these were confined to internal restructurings. During the initial stages of language shift, past participles were found in simple present tense

[28] This effect is much less true for North American varieties of English than for British English. In North American English, the perfective/simple past distinction may not be so clearly felt.
[29] As was noted for the simple past, the use of periphrastic constructions that include a past participle is functional, but the difference between strong and weak participle forms is not.

contexts, for example **ge-noem-e* ('named') in *wat ze *genoeme* ('what they call') (Smits, 1996: 91). Not only was it attested in the wrong context, the form itself was also found to deviate from the standard *ge-noem-d*. In more advanced stages of language shift, more constructions with past participles were used in simple present tense context. Attested forms included *je *ge-rook-t* instead of the standard *je rook-t* ('you smoke') (Smits, 1996: 179). Moreover, past participle forms were not only attested in present tense contexts, but were also found in simple past tense contexts, as in **toen je hem ge-huur-den* (when you him hire-PTCP – 'when you hired him') (Smits, 1996: 100). Once again, both context and form deviate, as standard Dutch has *ge-huur-d*. Past participle constructions in Iowa Dutch were thus generalized to contexts that required the simple present or past[31].

4.3.5 Predictions regarding the regression hypothesis and past participles

Both language acquirers and speakers of Iowa Dutch appear to prefer periphrastic constructions that contain an auxiliary and past participle over the simple past tense. The same tendency can thus be expected in the speech of attriters. The similarities are summarized in the implicational hierarchy below. Problems with the prefix can furthermore be expected in attrition, as this is what children typically find difficult.

bare past participles (unanalyzed)	<	past participles with missing inflection (either prefix or suffix, but mostly prefix)	<	weak past participle inflection	<	strong past participle inflection

[30] While English past participles also follow the weak/strong declension, the surface forms of the participles do differ from Dutch.

[31] This preference for periphrastic constructions over the preterite also characterizes the initial stages of child Dutch (cf. 4.3.2).

4.4 Auxiliary selection

4.4.1 Dutch auxiliary selection

Dutch has two temporal auxiliaries that can be selected in periphrastic constructions: *hebben* ('to have') and *zijn* ('to be'). There is a long-standing debate about the precise mechanism that governs auxiliary selection in Dutch (Hoekstra, 1999: 67). It appears that the choice of auxiliary depends on semantic principles: *zijn* is selected if the verb is inherently bounded or has a natural endpoint and *hebben* seems preferable when the action denoted by the verb does not have such a natural endpoint. This distinction has been termed [± telicity] (Booij, 2002: 67). A good check for telicity is to add the durational phrase *for hours (urenlang* in Dutch) to the periphrastic construction. If this proves impossible, the verb is telic and selects *zijn* in periphrastic constructions. If, on the other hand, *for hours* can be inserted, the verb in question is likely to be atelic and selects *hebben* (Booij, 2002: 67). This is illustrated in (3a) and (3b) below (Booij, 2002: 67), where (3a) is ungrammatical and (3b) is acceptable:

3a) **de koningin is urenlang gestorven*
the queen be-3SG for hours die-PTCP
'the queen has died for hours'

3b) *de koningin heeft urenlang gefietst*
the queen have-3SG for hours cycle-PTCP
'the queen has cycled for hours'

Furthermore, items that select *hebben* belong to the same class of verbs that allow impersonal passives (see 5.2.1): *ik heb gelachen* (I have-1SG laugh-PTCP – 'I have laughed'); *er wordt gelachen* (there become-3SG laugh-PTCP – 'people are laughing'). Impersonal passives cannot be formed on the basis of '*zijn*-verbs': while *hij is overleden* (he be-3SG die-PTCP – 'he has died') is acceptable, *er wordt overleden* (there-become-3SGs-die-PTCP – 'people are dying over there') is not (Wijnen & Verrips, 1998: 267). On a theoretical level, the difference between verbs that select *hebben* in periphrastic constructions and allow impersonal passives and verbs that select *zijn* and do not allow impersonal passives has been analyzed as a difference in argument structure

(Wijnen & Verrips, 1998: 267). The subjects of telic (*zijn)* verbs originate as objects (are internal arguments). For example, *the vase* in *the vase broke* can be equated with the object in *John broke the vase.* Such verbs are commonly referred to as unaccusative or ergative verbs. By contrast, atelic (*hebben*) verbs take external arguments that do not originate as objects and are referred to as unergative verbs (Wijnen & Verrips, 1998: 267). Importantly, subjects of atelic verbs exert some control over the action [+agentivity], whereas subjects of telic verbs can be characterized as non-controlling subjects [-agentivity].

The two temporal auxiliaries in Dutch are thus in competition for selection in periphrastic constructions. Which of the two is selected is determined by semantic principles that result from the [±telicity] factor and also partly from the [±agentivity] factor.

4.4.2 The acquisition of Dutch auxiliary selection

Dutch-speaking children start using tensed auxiliaries around the age of 2;6, but such auxiliaries typically lack full integration into periphrastic constructions. When children do form periphrastic structures, *hebben* and *zijn* are initially used interchangeably, with *zijn* being generalized to *hebben* contexts more than vice versa. Examples of such generalizations are **is het geregend?* (be-3SG it rain-PTCP? – 'has it rained?') instead of the standard *heeft het geregend?* and *ik *ben niet buitengespeeld* (I be-1SG not outside play-PCTP – 'I have not played outside') for *ik heb niet buitengespeeld* (Wijnen & Verrips, 1998: 268).

In a study by van Hout (1996), three groups of subjects were given novel verbs to learn. The groups consisted of 4 and 8 year-old children as well as adults. The novel verb design was used to examine the productivity of auxiliary selection. Efforts were made to ensure that subjects knew about the telicity and agentivity of the verbs involved. The results suggest that the main factor governing auxiliary selection in all subjects was telicity. While it was the only factor underlying the selection of auxiliaries in the youngest age group (4 year-olds), the factor [±agentivity] also played a role in the case of the older children and adults. Contrary to what has been claimed about the initial overgeneralization of *zijn* in child Dutch, it was *hebben* that was used most often by all three age groups, presumably because *zijn* occurs less frequently and is therefore avoided in novel contexts (van Hout, 1996 in Wijnen & Verrips,

1998: 269). In other words, the children tended to select the auxiliary on the basis of analogy (see also 1.2.2.3).

In general, Dutch-speaking children start using auxiliaries in periphrastic constructions at a relatively early stage in their linguistic development. The process of integrating such auxiliaries into periphrastic constructions also appears to be rapid and relatively effortless (Wijnen & Verrips, 1998: 270). At the age of 4;0, temporal auxiliaries are almost invariably used correctly (de Houwer & Gillis, 1998: 33), although occasional deviations do still occur.

4.4.3 English auxiliary selection

The main difference between English and Dutch is that the former only employs one auxiliary in periphrastic constructions: *have* (Quirk et al., 1985: 96). An example of a periphrastic construction in English is *I have laughed* or *he has died*. Apart from reference to past events, English periphrastic constructions also carry perfective aspect the way their Dutch counterparts do, but in English this is much more clearly felt.

4.4.4 The attrition of Dutch auxiliary selection

Table 4.14 lists the properties of Dutch auxiliary selection.

Table 4.14: Properties of Dutch auxiliary selection

	general	***hebben*** **('to have')**	***zijn*** **('to be')**
acquisition	2;6-4;0	early/mid	early/mid
conditioning	semantic	semantic	semantic
frequency	high	high	lower
functionality	yes[32]	no	no
L2 equivalent	yes	yes	no

Since auxiliary selection appears to be in place from a relatively young age, the prediction is that it will not be lost early in attrition. In addition, the fact that

[32] While the use of auxiliaries in periphrastic constructions is functional, a non-standard selection of auxiliary does not result in a loss of information, making the distinction between *hebben* and *zijn* non-functional in nature.

auxiliary selection is almost entirely semantically conditioned might make it less susceptible to attrition as well. The acquisition of *hebben* and *zijn* do not show clear differences, but *hebben* is more frequent and, as opposed to *zijn,* has an L2 equivalent. Both factors might predict a higher retention rate of *hebben* at the expense of *zijn*, while both auxiliaries are retained in periphrastic constructions. This prediction was partly borne out by the data on Iowa Dutch (Smits, 1996). What was attested were forms like *ze *het*[33] *gesterft* for *zij is gestorven* ('she has died') and *je *hebt gevallen* for *je bent gevallen* ('you have fallen'). The overextension of *hebben* was ascribed not so much to internal remodeling, but to influence from the English equivalent *have* (Smits, 1996: 181).

4.4.5 Predictions regarding the regression hypothesis and auxiliary selection

In child Dutch, the two temporal auxiliaries are initially not used discriminately. The same tendencies were observed in Iowa Dutch and are therefore likely to emerge in attrition. These parallels are summarized in the following implicational hierarchy:

no temporal auxiliaries (only bare past participles)	<	temporal auxiliaries *zijn* and *hebben* (where one is generalized at the expense of the other)

4.5 Future tense

4.5.1 Dutch future tense

It is debatable whether the future in Dutch constitutes a tense, as there are no inflections to mark futurity. In general, most West Germanic languages indicate futurity by means of an auxiliary and participle rather than through a synthetic tense (see Comrie, 1995: 148, for a similar analysis of German). In Dutch too, the most common way to express the future is by means of a modal, *zullen*

[33] In Iowa Dutch, the form *het* was often used as a replacement of *heeft,* presumably for simplification purposes (Smits, 1996: 181).

('will'), followed by an infinitive, as in *Jan zal morgen komen* (Jan will-SG tomorrow come-INF – 'Jan will come tomorrow'). This construction denotes a more distant future. A way to indicate the immediate future is by means of the verb *gaan* ('to go') plus an infinitive: *Jan gaat morgen weg* (Jan go-3SG tomorrow away – 'Jan is going to leave tomorrow'). The contexts in which *gaan* can be used to express future reference appear to be limited, however; it is less acceptable in *Jan gaat morgen komen* (Jan go-3SG tomorrow come – 'Jan is going to come tomorrow'). The contexts in which it can and cannot be used appear to be arbitrary and also vary dialectally. In addition, colloquial Dutch occasionally combines both *zullen* and *gaan,* resulting in constructions as *hij zal gaan reizen* (he will-SG go-INF travel-INF – 'he will travel'). Another possible way to indicate futurity is the use of the simple present tense, as in *Jan komt morgen* (Jan come-3SG tomorrow – 'Jan comes tomorrow') (Booij, 2002: 70). In short, Dutch has three ways to indicate futurity: through the use of *zullen, gaan* or the simple present tense.

4.5.2 The acquisition of Dutch future tense

Grammatical means to denote the future are acquired relatively early in Dutch-speaking children, long before past tense reference (de Houwer & Gillis, 1998: 34; Schaerlaekens, 1977: 159). Initially, around 3;0, children indicate the future by means of the verb *gaan* ('to go') followed by an infinitive (de Houwer & Gillis, 1998: 34). An example of a structure produced during this stage is provided in (4) (Schaerlaekens, 1977: 159).

4) *Gijs gaat dat in het nestje leggen*
Gijs go-3SG that in the nest put-INF
'Gijs is going to put that in the nest'

The more conventional way of denoting the (distant) future, by means of *zullen* ('will')+ infinitive, does not appear until much later and is rare before 4;0 (de Houwer & Gillis, 1998: 34). The late emergence of the distant future reflects the gradual expansion of childrens' cognitive understanding of temporal relations (Schaerlaekens, 1977: 171) and is also attested in the use of distant and immediate past (see 4.2.2 and 4.3.2). There is currently a lack of data on the development of the present tense to denote the future. In short, future tense is

employed early in child Dutch, although the *zullen* + infinitive construction does not emerge until later in children's linguistic development.

4.5.3 English future tense

Being a Germanic language like Dutch, English does not have a morphologically marked future tense either, but does have constructions that can be used to refer to future events, especially in independent clauses. Futurity, modality and aspect are closely interrelated in English, which is reflected in the fact that futurity can be expressed by means of a modal auxiliary, 'semi-auxiliary', simple present or a present progressive form (Quirk et al., 1985: 213).

By far the most common way of expressing futurity is by means of the *will/shall/'ll* + infinitive construction, which is highly similar to Dutch *zullen*: *he will be there in half an hour* (Quirk et al., 1985: 213). What is also frequently attested is the structure *be going to* + infinitive, especially in informal speech: *when are you going to get married?* (Quirk et al., 1985: 214). This greatly resembles the Dutch *gaan* construction. In addition, English can use present progressive forms to signal future reference, as in *I'm taking the children to the zoo (on Saturday).* The basic meaning of such constructions is that of "future arising from present arrangement, plan or programme" (Quirk et al., 1985: 215). As in Dutch, futurity in English can also be expressed by means of the present tense, which is the most common way of marking the future apart from the *will/shall/'ll* + infinitive construction. The present tense can only be used within dependent clauses, however, as in *what will you say if I marry the boss?*[34] (Quirk et al., 1985: 215). English, in short, is similar to Dutch in that *will, be going to* and the simple present can be used to indicate futurity.

[34] Native speakers of English also tend to accept structures like *I see the boss tomorrow at 3:00,* which contains a present tense to indicate futurity, but not as part of a dependent clause.

4.5.4 The attrition of Dutch future tense

The properties of Dutch future tense are summarized in Table 4.15.

Table 4.15: Properties of Dutch future tense

	general	***zullen* + inf**	***gaan* + inf**	**simple present**
acquisition	3;0-5;0	late	early	?
conditioning	semantic	semantic	semantic	semantic
frequency	high	high	lower	lower
functionality	yes	yes	yes	no
L2 equivalent	yes	yes	yes	yes

On the basis of this table, the use of *gaan* plus infinitive can be expected to be retained longer in attrition than equivalent *zullen* constructions due to its earlier acquisition. Although it does occur less frequently, *gaan* seems to be more salient for children, as it denotes the immediate future. It is hard to make any predictions about the attrition of the simple present to denote futurity due to the lack of evidence from acquisition. None of these predictions have been empirically tested as part of a study on attrition.

4.5.5 Predictions regarding the regression hypothesis and future tense

In child Dutch, the immediate future (formed by means of *gaan* + infinitive*)* precedes the acquisition of the distant future (formed by means of *zullen* + infinitive). While no such information is available for attrition, a mirror image can be envisaged for attrition, as a similar tendency emerged for past tense reference where the means to indicate the immediate past were acquired before the more distant past. The implicational hierarchy then becomes the following:

no future tense marking	<	*gaan* + infinitive constructions	<	*zullen* + infinitive constructions

4.6 Summary

This chapter has attempted to uncover parallels between acquisition and evidence from language shift in Iowa Dutch, which in turn served as a source of provisional evidence for expected tendencies in attrition. The systematicity of the variation attested in acquisition and the shift in Iowa Dutch was captured by means of implicational hierarchies, all of which are reproduced below.

Simple present tense:

zero present tense marking	<	tensed modals and auxiliaries	<	regular present tense inflections (where *–t* is generalized to all singular persons)	<	irregular present tense inflection (notably *zijn, hebben* and the modals *kunnen, mogen, willen, zullen*)

Simple past tense:

zero past tense marking (verb stems)	<	periphrastic (perfect) constructions	<	weak past tense inflection (where *–te(n)* and *–de(n)* are not discriminately used at first)	<	strong past tense inflection

Past participles:

bare past participles (unanalyzed)	<	past participles with missing inflection (either prefix or suffix, but mostly prefix)	<	weak past participle inflection	<	strong past participle inflection

Auxiliary selection:

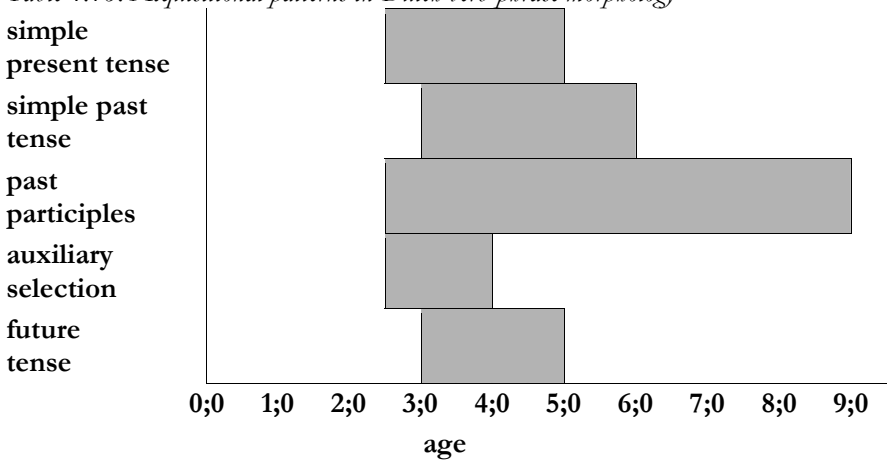
no temporal auxiliaries (only bare past participles)	<	temporal auxiliaries *zijn* and *hebben* (where one is generalized at the expense of the other)

Future tense:

no future tense marking	<	*gaan* + infinitive constructions	<	*zullen* + Infinitive constructions

As this study takes an acquisitional approach in its examination of attrition data, Table 4.16 provides a schematic overview of the acquisitional patterns of all verb phrase morphological features under investigation.

Table 4.16: Acquisitional patterns in Dutch verb phrase morphology



Chapter 5

Implicational Hierarchies in the Acquisition and Attrition of Dutch Morpho-syntax

This chapter explores sequences in the acquisition and attrition of Dutch morpho-syntax. Every natural language has ways of expressing multiple events and the relation between them (Tomasello, 2003: 243). Initially, children do not yet have the cognitive and linguistic means at their disposal to indicate such complex relationships between utterances. As soon as multi-word sentences begin to appear, however, they need ways to organize their speech (Wijnen & Verrips, 1998: 226). The complexity of the morpho-syntactic system thus grows in sophistication with age.

The present chapter explores similarities between these observations in acquisition and potential patterns in attrition through the formulation of testable hypotheses in the form of implicational hierarchies. In particular, five phenomena are examined, two of which are located at the interface between morphology and syntax: negation and passive constructions. The other three features under investigation can be called purely syntactic in nature: verb second (or V2), subordination and discontinuous word order. The complexities involved in all five features have been shown to result in relatively effortful processes of acquisition and might therefore also prove problematic in language attrition.

5.1 Negation

5.1.1 Dutch negation

Dutch sentences can be negated by means of negative particles. The default, clause-internal, negator is *niet* ('not'), which is typically placed after the finite verb, as in (1) (de Schutter & van Hauwermeiren, 1983: 172).

1) *zij heeft niet gespeeld*
she have-3SG not-NEG play-PTCP
'she has not played'

When the negative particle, or NEG, precedes 'indefinite lexical items', the negator often combines with this word to form a single-morpheme unit. The indefinite article *een* is perhaps the best example of such an indefinite item that can combine with a negator: *niet een* ('not one') becomes *geen* ('no'), unless the indefinite article is stressed. Other combinations are also found, however, such as *niet iemand* ('not anyone'), which is merged into *niemand* ('no one') (de Schutter & van Hauwermeiren, 1983: 173). This merging process is thus largely morphological in nature.

The default negator *niet* can be combined with the clause-external negative particle *nee* ('no') for emphatic reasons, especially in response to yes/no questions. The difference in emphasis is especially felt in a comparison of sentences (2a) and (2b), where the double negator in (2a) creates a stronger message.

2a) *nee, ik heb dat niet gedaan*
no-NEG, I have-1SG that not-NEG do-PTCP
'No, I have not done that'

2b) *ik heb dat niet gedaan*
I have-1SG that not-NEG do-PTCP
'I have not done that'

Although NEG is typically placed post-verbally in Dutch, the exact place vis-à-vis the non-finite verb and other constituents such as adverbials may vary. Compare the following sentences (Wijnen & Verrips, 1998: 242):

3a) *Jan heeft waarschijnlijk niet het boek gelezen*
Jan have-3SG probably not-NEG the book read-PTCP

3b) *Jan heeft waarschijnlijk het boek niet gelezen*
Jan have-3SG probably the book not-NEG read-PTCP

3c) *Jan heeft het boek waarschijnlijk niet gelezen*
Jan have-3SG the book probably not-NEG read-PTCP
'Jan has probably not read the book'

The difference in scope of the negative particle affects the interpretation of these sentences. In the first sentence, *niet* only has scope over *het boek* (constituent negation), but it governs the entire sentence in (3b) and (3c), a phenomenon known as sentence negation. As a consequence, the stretch of discourse affected by *niet* in (3a) is much more limited and NEG can be interpreted as focus particle in relation to *het boek* (Wijnen & Verrips, 1998: 242). It emphasizes that not the book has been read, but at the same time implies that some other document might have been read. It is only in this function as focus particle that NEG can occupy a sentence-initial position, exemplified in (4) (see de Schutter & van Hauwermeiren, 1983: 195).

4) *niet de kapitein, maar de matroos keerde terug*
not-NEG the captain, but the sailor turn-SG.PST back
'not the captain, but the sailor returned'

The correct use of Dutch negation thus ultimately depends on an interplay between the correct negator and its correct placement in the sentence, where the latter is governed by semantic principles of scope. This suggests that Dutch negation is an interface phenomenon, which has both semantic and syntactic properties and, in addition, builds on morphological principles that govern word formation processes in forms like *geen* and *niemand*.

5.1.2 The acquisition of Dutch negation

In their development of negation, Dutch-speaking children generally pass through three stages. In the first stage, the negative particle *niet* is rarely attested. Instead, children almost invariably use *nee* ('no') to indicate unwillingness. This particle typically occurs in isolation and has scope over the entire utterance. As a consequence, it has been analyzed as a clausal operator with a negative modal meaning. The use of *nee* at this stage has been referred to as holistic *nee* and the stage at which it is attested is called the holistic stage (Jordens & Dimroth, 2006: 177). Examples of holistic *nee* in child Dutch are provided in (5a) to (5c) (Jordens & Dimroth, 2006: 177).

5a) *nee dokter*
no-NEG doctor

'I don't want to go to the doctor'

5b) *nee boterham*
no-NEG sandwich
'I don't want a sandwich'

5c) *nee Cynthia afpakke*[35]
no-NEG Cynthia take away-INF
'Cynthia cannot take this away'

Sentence-initial *nee* is sometimes also regarded as having been modeled on the anaphoric *nee* that is found in response to yes/no-questions (Jordens & Dimroth, 2006: 179, see 5.1.1). Moreover, negation is rarely attested in child-directed speech, but when it is used by caretakers, its function is usually to emphasize that something is disallowed. In these contexts, the negator is typically placed sentence-initially in adult repertoires as well (Schaerlaekens, 1977: 66) (see 6).

6) *niet drinken*
not-NEG drink-INF
'do not drink that'

This in turn might contribute to children's preference for placing the negator in sentence-initial position. Overall, although in general the use of *nee* during the holistic stage does not always conform to the target model, it is productive (Jordens & Dimroth, 2006: 185.).

After the holistic *nee* stage, the selection and sequential ordering of constituents in child Dutch tend to be governed by principles of information structure. During this phase, known as the conceptual ordering stage, the position of the negative element not only shifts to mid-position between the topic and the predicate, but the clause-internal particle *niet* also emerges alongside *nee*. Both particles are used as linking devices to express the illocutionary function of negative assertion, as shown in (7a) and (7b). Children typically reach this stage between 1;10 and 2;1 (Jordens & Dimroth, 2006: 180-181).

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[35] The phonological process of apocope of syllable-final *–n* is common in Dutch and is more elaborately discussed in the previous chapter (Chapter 4).

7a) *da*[36] *kan niet zitten*
there can not-NEG sit-INF
'you cannot sit there'
7b) *dit nee afdoen*
this no-NEG off take-INF
'don't take this off'

The third and final stage is characterized by a transition from "lexical to grammatical validation of the utterance" (Jordens & Dimroth, 2006: 186). It is during this phase, roughly between 3;0 and 5;0, that finite verbal morphology emerges. Although negation is also used differently now, it is less clear what developmental path the fine-tuning of negation follows during this phase (Schaerlaekens, 1977: 131). There does seem to be a consensus, however, that complete mastery of negation is not in place before complex verb phrases (consisting of more than one element) are produced, since negation and finiteness are intrinsically linked: the negator is generally placed after the finite verb (Wijnen & Verrips, 1998: 241-242, see 5.1.1).

The development of negation in Dutch-speaking children thus shows clear sequences, although the developments during the final stage are less clear. Early child Dutch is characterized by holistic *nee,* while the mastery of *niet* and its associated word order takes considerably longer and is often not complete at 5;0 (Schaerlaekens, 1977: 131).

5.1.3 English negation

English negation shares many characteristics with the Dutch system. The default way of forming negative assertion is by means of *not,* placed after the finite verb (Quirk et al., 1985: 122). This does not present a problem in clauses that contain both finite and non-finite forms, but when only a lexical verb is present, do-support is needed to indicate negation. (8a) presents an example of a 'regular' negative sentence, while (8b) shows an instance of do-support in a negative clause.

[36] The *da* form here is an elliptical form of *daar* ('there').

8a) *he will not do it*
8b) *he does not like it*

Although both Dutch and English generally place NEG after the finite verb, there is an important difference in the freedom both languages allow with respect to NEG and its placement vis-à-vis the non-finite verb and other constituents in the clause; whereas Dutch has several possibilities (evidenced in 5a-c), English generally only allows one of these options. In other words, English cannot formulate a sentence like *Jan has probably not read the book* as either *Jan has probably the book not read* or *Jan has the book probably not read* the way Dutch can.

In informal discourse, the negative particle is often reduced to *–n't* in those contexts where it is preceded by an auxiliary or dummy operator, resulting in forms like *won't* for *will not* or *doesn't* instead of *does not* (Quirk et al., 1985: 122). This use should be carefully distinguished from the Dutch merged forms of *geen* and *niemand* (see 5.1.1.); while final *–n't* in English is clearly an enclitic form of *not, g-* in *geen* does not have this function.

The English particle *not,* like Dutch *niet,* can be combined with the negative *no* in response to yes/no-questions to emphasize the message. This is illustrated by utterances like *no, I did not do it,* which is felt to be stronger than *I did not do it.* In addition, English has a number of negative elements, which mark a clause as negative, even if the negative participle *not* or its enclitic *–n't* are not present. Examples of such negative items are *no, nobody, nothing* and *never: I saw nothing* (Quirk et al., 1985: 84).

5.1.4 The attrition of Dutch negation

On the basis of what has been presented about the Dutch system of negation, its acquisition and English counterpart, predictions can be formulated with respect to the attrition of negation. Table 5.1 summarizes the properties of Dutch negation.

Table 5.1: Properties of Dutch negation

	general	***niet*-negation**	***geen*-negation**
acquisition	1;0-5;0	late	late
conditioning	semantic/ morpho-syntactic	syntactic	morpho-syntactic
frequency	high	high	mid/high
functionality	yes	yes	yes
L2 equivalent	yes	yes	no

The earliest acquired negative particle, *nee,* has not been included in this overview, because past studies on attrition have generally not been able to show great losses, which in turn would make regression to the initial stage of acquisition unlikely (see Introduction). Negation by means of both the standard particle *niet* and forms of the kind *geen* and *niemand* are acquired relatively late and are linked to the acquisition of finiteness. Mastery of finiteness, in turn, presupposes a correct use of word order. Negative forms like *geen* and *niemand* may be especially vulnerable in attrition because of the interface between syntactic and morphological governing principles. None of these predictions have been tested in relation to language attrition.

5.1.5 Predictions regarding the regression hypothesis and negation

The variation that is attested in child Dutch may be summarized in the following implicational hierarchy, which can serve as a basis for testing the regression hypothesis. In other words, language attriters can be hypothesized to reveal the mirror image of this hierarchy in their production of Dutch negation.

negation by means of *nee* as a clause-external operator with scope over the entire utterance	<	negation by means of clause-internal *niet*	<	negation by means of merged forms like *geen* and *niemand*

5.2 Passive constructions

5.2.1 Dutch passive constructions

Dutch passives offer a different vantage point in the presentation of the state of affairs than active constructions. Whereas the actor is central in active structures, the passive can be used to focus on what has happened rather than on who or what caused it. Dutch indicates the passive through a form of *worden* ('to become') followed by a past participle. The form of Dutch passives is thus largely determined by morphological principles. As the verb's subject argument of the active clause is not the main focus anymore, it does not have to be expressed, but is always implied. Optionally, the agent can be expressed in a *door* ('by') phrase, the presence of which creates so-called long passives. By contrast, passive constructions without an overt agent are called short passives (Verrips, 1996: 2). The contrast between active and passive formulations is illustrated in (9a) and (9b).

9a) *de moeder wast de kinderen*
the mother wash-3SG the children
'the mother washes the children'

9b) *de kinderen worden gewassen (door de moeder)*
the children become-PL wash-PTCP (by the mother)
'the children are washed (by the mother)'

The majority of Dutch passives are formed on the basis of transitive verbs, but it is not uncommon to passivize intransitive verbs either. This process results in so-called impersonal passives, for example in (10) (Verrips, 1996: 7).

10) *er wordt gedanst*
there become-3SG dance-PTCP
'people are dancing'

Not all intransitive verbs can be passivized, however. Which intransitives can and cannot be passivized is determined by the interaction between the factors [±telicity] and [±agentivity] (see also 4.4.1). Telic verbs (which have a natural

endpoint) tend to lack a passive counterpart. Typically, such verbs also lack a clear agent. For example, the verb *sterven* ('to die') is telic and already describes a process to be undergone, which is why it only tends to occur in the active. However, in a construction like (11), semantic principles interact with syntactic constraints to form the passive on the basis of the verb *sterven* (Verrips, 1996: 8). Despite the verb's telic nature, an agent is clearly felt to control the action denoted by the verb, thereby allowing a passive.

11) *in deze uitvoering wordt door de sopraan op magistrale wijze gestorven*
in this performance become-3SG by the soprano in majestic way die-PTCP
'in this performance the soprano dies in a majestic way'

In colloquial speech, *worden* ('to become') can be deleted in those contexts where the passive construction is "embedded under a modal verb" (Verrips, 1996: 14). Here we find instances like (12) (Verrips, 1996: 15).

12) *de jas kan gewassen (worden)*
the coat can wash-PTCP (become-INF)
'the coat can be washed'

In review, Dutch passive constructions may be rule-governed to a great extent, but at the same time form a complex system that builds on the interface between semantics and syntax as well as on morphological principles.

5.2.2 The acquisition of Dutch passive constructions

Passive constructions tend to emerge late in all children, mainly because the passive voice, which presents a non-agentive perspective, is not compatible with young children's view of the world (Verrips, 1996: 132). In Dutch-speaking children, too, very few passive constructions are found at 4;0 (de Houwer & Gillis, 1998: 35), and children as old as 5;0 find passives problematic, as evidenced by the deviant structures they continue to produce (Schaerlaekens, 1977: 176). In addition, passives are rarely found in child-directed speech, which might explain their low frequency in child Dutch (Schaerlaekens, 1977: 66).

Around 2;6, Dutch-speaking children tend to produce agentless sentences, which have been interpreted as initial attempts at passivization, because these structures resemble the adult modal passive (see 13).

13) *auto moet repararen*
car must-SG repair-INF
'the car must be repaired'

Semantically, these constructions are thus often interpreted as equivalent to constructions like (14), but *worden* has been dropped and the inflection of the passive participle form has not been mastered yet (Wijnen & Verrips, 1998: 258-259. Also characteristic of these premature passives is the use of the verb *moeten* ('must') rather than *worden* (Verrips, 1996: 130).

14) *de auto moet gerepareerd worden*
the car must-SG repair-PTCP become-INF
'the car must be repaired'

Most spontaneous instantiations of early passives in child Dutch involve physical action verbs (see 15) (Verrips, 1996: 132), presumably because of their saliency.

15) *aardappels moeten schillen*
potatoes must-PL peel-INF
'potatoes must be peeled'

No studies have investigated the emergence of impersonal passives in children, but given the fact that children initially only passivize physical action verbs, it is unlikely that the acquisition of impersonal passives precedes that of 'regular' passives.

It has been claimed that children have difficulty grasping the concept of implicit argument at first, leading to a situation where most early passives constitute short passives (without a specified agent), rather than long ones (by means of a *door*-phrase) (Wijnen & Verrips, 1998: 272). Experiments have shown, however, that children between 4;2 and 6;9 tend to have a clear representation of implicit arguments, and they were found to respond actively

to a passively formulated question (Verrips, 1996). In particular, children were shown a picture of a rabbit frying eggs in a frying pan and were asked the question in (16).

16) *waarom wordt het ei gebroken?*
why become-3SG the egg broken-PTCP
'why is the egg broken?'

They typically responded along the lines of the rabbit trying to fry the egg (Wijnen & Verrips, 1998: 273). It has been suggested that children as young as 2;6 are able to do this, although they do tend to become better with age (Wijnen & Verrips, 1998: 273-274).

In conclusion, children do not start producing target-like passives until well into their linguistic development and certainly not before 4;0 or 5;0. Precursors of passives do start to emerge around 2;6 and typically take the form of *moeten* + infinitive without an agentive *door*-phrase.

5.2.3 English passive constructions

Like Dutch, English has a passive voice which enables a change in perspective, without changing the facts that are reported (Quirk et al., 1985: 159). To form the passive in English, a form of the auxiliary *be* is inserted in the default, second verb position (see 5.3.3), followed by a past participle of the main lexical verb, as in (17).

17) *the detective was murdered (by the butler).*

As in Dutch, English can optionally express the subject of the action by means of a *by*-phrase, creating what is known as a long passive (Quirk et al., 1985: 159-160). In most cases, however, it is not necessary to specify the agent.

The English passive can also be formed by means of *get* rather than *be,* illustrated in (18).

18) *James got beaten last night*

It should be noted that this use is restricted to informal registers and even in those contexts it is far less frequent than the conventional *be* + past participle. Although an unspecified agent is not uncommon either, a general rule for the use of *get* appears to be that the animate agent is expressed: *James got caught (by the police)* (Quirk et al., 1985: 160-161).

Very different from Dutch is the fact that English does not generally allow intransitive verbs to passivize. Only occasionally can instances like (19) be found, in which the passive is formed on the basis of a stative verb, but this is restricted to stative verbs of volition or attitude (Quirk et al., 1985: 162).

19) *he is wanted by the police*

Thus, the examples above illustrate that English and Dutch passive constructions share many similarities, but that one major difference is the fact that Dutch allows atelic intransitive verbs to be passivized (impersonal passives) and English does not.

5.2.4 The attrition of Dutch passive constructions

Table 5.2 summarizes the Dutch passive system.

Table 5.2: Properties of Dutch passive constructions

	general	**transitive passives**	**intransitive passives**
acquisition	2;6-5;0+	earlier	later
conditioning	semantic/ syntactic/ morphological	semantic/ syntactic/ morphological	semantic/ syntactic/ morphological
frequency	mid	mid	low
functionality	yes	yes	yes
L2 equivalent	yes	yes	no

It is perhaps especially the interaction between semantic, syntactic and morphological principles that makes the acquisition of Dutch passives problematic and that predicts an early erosion of this phenomenon. In particular, intransitive passives are likely to be more vulnerable to attrition due

to their late acquisition as well as lower frequency and lack of an English equivalent.

5.2.5 Predictions regarding the regression hypothesis and passive constructions

The implicational hierarchy below summarizes the predicted mirror symmetries between acquisition and attrition. Whereas acquisition has been found to take place from left to right, the mirror image is hypothesized for attrition.

active constructions	<	short transitive passives (where the first passives occur with *moeten* rather than *worden)*	<	long passives, including intransitive (impersonal) passives

5.3 Verb Second (V2)

5.3.1 Dutch V2

Dutch verbs can occupy one of two positions: they can occur in second position or they can be placed sentence-finally. The former position is restricted to finite verbs in main declarative clauses, while non-finite elements, typically infinitives or past participles, occupy the final position in the clause. This contrast is illustrated in (20).

20) *Jan heeft het boek gelezen*
Jan have-3SG the book read-PTCP
'Jan has read the book'

In (20), the verb phrase consists of two verbal elements: one finite and one non-finite. In cases where the verb phrase only contains one finite element, this invariably occupies the second position in main declarative clauses, as in (21).

21) *Jan leest het boek*
Jan read-3SG the book
'Jan reads the book'

In formal approaches to language, the clause-final position has been analyzed as the base position due to the fact that the lexical verb occupies this position, making Dutch an SOV language (Koster, 1975; Wijnen & Verrips, 1998: 227, see 4.1.2). It is then assumed that in main declarative clauses the verb is extracted from its base position and moved to second position, a process referred to as verb fronting (Booij, 2002: 67). An alternative way of analyzing the two possible verb positions is by assuming that Dutch is a mixed word order language with the two different constituent orders fulfilling two distinct functions. In other words, Dutch has V2 (SVO or XVS) word order in main declarative clauses, but is an SOV language in dependent clauses (cf. Comrie, 1981: 82 who proposes a similar analysis with respect to German[37], see also 5.4.1).

What both approaches have in common, however, is that the first position in the clause is typically reserved for focal constituents. While this position tends to be filled by the subject, other focal elements such as the object, a prepositional phrase or even whole subordinate clauses can occasionally occupy this position as well, as exemplified in (22a) and (22b). In (22a) the focal position is occupied by the object and a prepositional phrase fills the first slot in (22b). When a focus constituent is placed in first position, the subject occupies the post-verbal position instead. It should be indicated that no more than one constituent is generally allowed to fill the first, focal position in Dutch.

22a) *een boek leest Jan soms, maar meestal leest hij magazines*
a book read-3SG Jan sometimes, but mostly read-3Sg he magazines
'Jan sometimes reads a book, but he mainly reads magazines'

[37] German is typologically closely related to Dutch and shows similar patterns in verb placement (see Schmid, 2002).

22b) *Na het avondeten leest Jan soms een boek*
after the supper read-3SG Jan sometimes a book
'after supper Jan sometimes reads a book'

While Dutch V2 may thus invariably obtain in main declarative clauses, it is inherently linked to finiteness and semantic principles of focus, both of which complicate the system.

5.3.2 The acquisition of Dutch V2

The acquisition of verb placement in second position takes place in a piecemeal fashion and is dependent on the acquisition of finiteness, which is why any discussion of the acquisition of V2 also needs to take the development of finiteness into account (Jordens, 1988b: 132f). The first stage, starting around 2;0, is dominated by the use of infinitives. These almost invariably occur in sentence-final position (Wijnen & Verrips, 1998: 229), for example in (23)

23) *ik zelf doen*
I myself do-INF
'I want to do it myself'

During the second stage (roughly up to 2;5), single verbs are placed in either the first or second sentence position (see 24a). On the surface, such utterances already resemble the adult model. At the same time, the second stage coincides with the first appearance of bare past participles, which are predominantly attested at the end of the sentence, as in (24b) (Wijnen & Verrips, 1998: 230, see also 4.3.2).

24a) *Peter kan bij*
Peter can by
'Peter can reach it'

24b) *Peter emmer daan*[38]
Peter bucket do-PTCP
'Peter has put it in the bucket'

Dutch-speaking children tend to show distinct distributional patterns regarding the kind of verbs they allow in second or final position (Jordens, 1990: 1411). Verbs that are typically placed to the left include modals and auxiliaries, while lexical verbs tend to be placed in final position, as illustrated in (25a) and (25b), respectively.

25a) *kan niet open*
can not open
'it cannot open'
25b) *ik ook doen*
I also do-INF
'I also want to do that'

Children thus seem to distinguish between the two verb positions from the very beginning, although there is a small class of verbs that may show overlap in that they can occur in both positions. Examples are *doen* ('do'), *geven* ('give') and *hebben* ('have') (Jordens, 1990: 1416-1421).

Children may thus use both verb positions, but it is generally not before 2;5 to 3;0 (the third stage) that they start producing utterances that consist of both a finite and a non-finite element. As soon as utterances containing two verbal elements enter the child's repertoire, the finite verb is almost invariably used sentence-initially and the non-finite verb is placed sentence-finally, as in (26) (Wijnen & Verrips, 1998: 230).

26) *doe$_{fin}$ jij ook handje geven$_{non\text{-}fin}$?*
do-2SG you also hand-DIM give-INF?
'are you shaking hands too?'

[38] Bare past participle forms, such as *daan,* reflect the relative difficulty children have with prefixes. The non-reduced form of *daan* is *ge-daan* (see 4.3.2).

It is in the third stage that a sudden and dramatic increase of V2 patterns is attested: 90% of all finite verbs are now placed in second position in main declarative clauses.

It can be concluded that children seem to grasp the idea of V2 at a relatively young age and that this phenomenon is linked to the acquisition of finiteness. As soon as tensed auxiliaries and modals are introduced, children are in a position to reanalyze the distributional opposition they had previously been using (Jordens, 1990: 1432). Surprisingly few deviations occur in the distributional pattern between finite and non-finite verbs and their subsequent place in the sentence.

Unfortunately, no studies have yet examined the potential difference in acquisition between V2 structures in unmarked subject-initial structures and in less frequent constructions where the focal element is either a negator or question participle. It may be expected that the latter constructions, due to their marked nature and lower frequency, emerge later in child Dutch than the more common subject-initial predicates.

5.3.3 English word order in main declarative clauses

English has been described as a 'fixed word order language' due to the fact that the verb is inflexible with respect to its position in main declarative clauses (Quirk et al., 1985: 51). Verbs typically appear in second position and are preceded by the subject of the clause. In that respect, English word order may resemble the Dutch system, but there is one important distinction between both languages: English is analyzed as a SVO language, but placement of the finite verb is not confined to the second position. As long as the verb follows the subject, it may be preceded by more than one constituent and, as such, the verb does not invariably occupy the second position, as in Dutch. Thus, structures like (27a), while acceptable in English, do not have a Dutch counterpart, as illustrated in (27b). Instead, the verb has to come second in Dutch, shown in (27c)

27a) *after supper Jan sometimes reads a book*
27b) **na het eten Jan soms leest een boek*
after the supper Jan sometimes read-3Sg a book

27c) *na het eten leest Jan soms een boek*
after the supper read-3SG Jan sometimes a book
'after supper Jan sometimes reads a book'

Exceptions can also be found, where English does not have a clear SVO structure, for example in questions of the type [X]-V_{fin} –S-[$V_{non\text{-}fin}$], referred to as subject-verb inversion (Schmid, 2002: 153). Inversion causes the subject and finite verb to switch places, illustrated in (28a). Dutch also fronts the finite verb in interrogatives (see 28b).

28a) *does*[39] *Jan sometimes read a book after supper?*
28b) *leest Jan soms een boek na het eten?*
read-3Sg Jan sometimes a book after the supper?
'does Jan sometimes read a book after supper?'

Other exceptions include the order in structures like *after x comes y* (for a more elaborate account of inversion in English, see Dorgeloh, 1997). On the whole, the surface position of finite verbs in English and Dutch is the same, but while Dutch is a V2 language, English is not.

5.3.4 The attrition of Dutch V2

Table 5.3 presents a summary of Dutch V2 structures.

[39] Where no auxiliary is present to front in interrogatives, do support is needed (Mackenzie, 1997: 21-22).

Table 5.3: Properties of Dutch V2

	general	**subject-initial V2 structures**	**V2 structures with focal element other than the subject**
acquisition	1;0-3;0+	early	later
conditioning	morpho-syntactic	morpho-syntactic	morpho-syntactic
frequency	high	high	lower
functionality	no	no	no
L2 equivalent	no	yes	yes

On the basis of the evidence from acquisition, V2 is not expected to be problematic in attrition. It might be predicted that those V2 structures in which other elements than the subject occupy the first, focal position are cognitively more demanding than unmarked subject-initial predicates, although no clear evidence is available from acquisition studies.

An additional complexity in attrition is a potential influence from English, where more than one constituent is allowed to precede the verb. A situation can thus be envisaged where Dutch attriters apply the L2 English rule to their L1 and produce non-standard Dutch sentences where the verb does not invariably occupy the second position in main declarative clauses.

Unfortunately, no attrition data of Dutch are available to evaluate these hypotheses. The loss of V2 has been the subject of a study on the attrition of L1 Swedish, which is similar to Dutch with respect to verb placement, but no attrition of the verb fronting rule was found (Håkansson, 1995). In addition, evidence from the attrition of German does not reveal much erosion of the V2 rule either. Interferences were only attested in 2.1% of the obligatory cases (Schmid, 2002: 158). Interestingly, the vast majority of these mistakes involved instances where subjects had inserted more than one element in the first position, for example in (29) (Schmid, 2002: 158). V2 interferences were found for both main lexical verbs and auxiliaries (Schmid, 2002: 159).

29) **und dann den nächsten Tag mein Vetter und seine Familie kamen*
and then next day my cousin and his family come-PL.PST
'and then the next day my cousin and his family came'

5.3.5 Predictions regarding the regression hypothesis and V2

The evidence from acquisitional patterns in Dutch V2 is presented in the implicational hierarchy below. The predicted order of attrition starts with the last acquired phenomenon and is likely to work its way back to the feature that is acquired earliest.

only the verb-final position is filled (usually by an infinitive)	<	both V2 and verb-final positions are filled (the first finite verbs are usually modals or auxiliaries)	<	complex predicates (where finite verbs occur in second position and non-finite verbs in final position)

5.4 Subordination

5.4.1 Dutch subordination

Dutch simple clauses can be combined into complex ones through either subordination or coordination. In coordination, two states of affairs are linked without one being hierarchically subordinate to the other (de Schutter & van Hauwermeiren, 1983: 200). A subordinate relation exists when one of the clauses plays a particular syntactic role in relation to the other (hierarchical subordination). An example of coordination is presented in (30a), while an illustration of subordination is given in (30b) (de Schutter & van Hauwermeiren, 1983: 199).

30a) *Jarko komt aan en Franca gaat weg*
Jarko arrive-3SG and Franca leave-3SG
'Jarko arrives and Franca leaves'

30b) *Franka gaat weg omdat Jarko aankomt*
Franca leave-3SG because Jarko arrive-3SG
'Franka leaves because Jarko arrives'

The focus of this section is on subordination, as it is especially the hierarchical dependency relation prevalent in subordinate constructions that appears to be challenging in language acquisition, making it a more suitable candidate for regression than coordination.

The word order that is found in Dutch subordinate clauses is very distinct from that in main declarative clauses (compare 5.3.1). For one, the first position in subordinates is reserved for a subordinator (or subordinating conjunction), which belongs to a closed class of uninflectable items. Subordinators have a connecting or linking function, although they do not form part of the elements they link (van der Heijden, 1999: 4-5). Examples of subordinators include *dat* ('that'), *omdat* ('because'), *zoals* ('like') and *tenzij* ('unless') (Donaldson, 1997: 229-230).

On a semantic level, subordinators provide more information about the nature of the connection in complex sentences. For example, *omdat* ('because') introduces a causative clause, while *tenzij* ('unless') indicates that a conditional clause follows (van der Heijden, 1999: 4). In addition, subordinating conjunctions have been roughly divided into two separate categories that each elicit a different word order: factual versus non-factual. While factual subordinators (e.g. *toen* ('then'), *omdat* ('because'), *terwijl* ('while') and *hoewel* ('in spite of') introduce a state of affairs that is taken to be true, non-factual subordinators (e.g. *al* - 'although, even if') introduce states of affairs that are taken to be possible, but do not necessarily hold true (de Schutter & van Hauwermeiren, 1983: 53-54). Clauses that are introduced by a factual subordinator exhibit verb-final word order, exemplified in (31).

31) *hij komt niet, omdat het regent*
he come-3SG not, because it rain-3SG
'he won't come because it is raining'

Clauses introduced by non-factual subordinators, on the other hand, follow one of three possible word orders. The verb-final order is one possibility, as in (32a) (de Schutter & van Hauwermeiren, 1983: 53).

32a) *als hij dat zegt is hij gek*
if he that say-3SG be-3SG he crazy
'if he says that he is crazy'

Alternatively, the verb can directly follow the subordinating conjunction. In other words, it can be placed sentence-initially (de Schutter & van Hauwermeiren, 1983: 53), illustrated in (32b).

32b) *al had hij het gezegd*
even if have-SG.PST he it say-PTCP
'even if he had said it'

Finally, subclauses may follow the word order of main clauses (V2), as shown in (32c) (de Schutter & van Hauwermeiren, 1983: 53).

32c) *het scheelde niet veel of*[40] *ze was in die operatie gebleven*
it differ-SG.PST not much or she be-SG.PST in that operation stay-PTCP
'she had almost not woken up from that operation'

Although different word orders are found, the dominant word order in subordinate clauses is verb-final, which in turn has led to the ongoing debate about the underlying word order of Dutch being SOV (see 5.3.1).

5.4.2 The acquisition of Dutch subordination

Before the age of 3;0, complex clauses are rarely found in child Dutch, presumably because it is harder to keep track of complex structures than of simple clauses. Shortly before their third birthday, however, children start producing complex clauses, which typically show a coordinating rather than subordinating relation (de Houwer & Gillis, 1998: 44-45). The juxtaposition of sentences appears to be easier than imposing some hierarchical relation between the two elements of the sentence.

Dutch-speaking children typically do not produce subordinate clauses before the age of 3;0 to 3;6, which coincides with the age at which children start producing the correct V2 word order in main declarative clauses (Wijnen &

[40] *Of* in this context is analyzed as a subordinator that indicates that a state of affairs has not been realized (de Schutter & van Hauwermeiren, 1983: 53).

Verrips, 1998: 246, see 5.3.2). This indicates that mastery of subordination not only relies on knowledge of subordinators and a cognitive command of hierarchical relationships, but essentially also on an understanding of the position of the verb and the assignment of finiteness that is associated with it (Schlichting, 1996: 83). The scant evidence that is available for the acquisition of Dutch does suggest that children employ the correct word order (i.e. verb-final) in dependent clauses from the very beginning (Wijnen & Verrips, 1998: 246).

Although the word order in subordinates does not tend to result in problems for Dutch-speaking children, the use of subordinators takes considerably longer to develop. The first subordinators to emerge introduce temporal or conditional clauses and take the form of *als* ('if/when') and *dan* ('then'), respectively. Some causative constructions also occur, typically introduced by the subordinator *omdat* ('because') (Wijnen & Verrips, 1998: 246; Schlichting, 1996: 83). Temporal clauses take the form of adverbial clauses, whereas conditionals are formulated by means of complement clauses, both of which are illustrated in (33a) and (33b) (Schlichting, 1996: 83).

33a) *als het leeg is ga ik nog meer inschenken* (temporal)
if it empty be-3SG go-1SG yet more pour-INF
'if it is empty I will pour some more'

33b) *als je zo doet dan gaat ie*[41] *zo doen* (conditional)
if you like that do-2SG then go-3SG he that do-INF
'if you do that then he will go like that'

Although both temporals and conditionals emerge simultaneously, temporals are much more frequent in child Dutch (Schlichting, 1996: 84), presumably because temporals are more salient.

Apart from temporals and conditionals, subordinators are frequently omitted in child Dutch, as illustrated in (34). Constructions of this type have been analyzed as 'syntactically premature subordination' (Schlichting, 1996: 86).

[41] The Dutch pronoun *hij* ('he') tends to be reduced to *ie (/i:/)* in spoken interaction. As such, *ie* can be considered to be the weak counterpart of strong *hij*.

34) *ikke*[42] *zei net Ø ik moest beginnen*
I say-SG.PST just I must-SG.PST start-INF
'I just said I had to start'

In addition, child Dutch frequently makes use of fillers that function as replacements of the correct subordinator. These typically take the form of either verbs or adverbials, as in (35a) and (35b), respectively

35a) *effe*[43] *kijken is gieter is*
just look-INF be-3SG watering can be-3SG
'let's see where the watering can is'
35b) *kijk eens zo deze bloem geworden is*
look-IMP like this this flower become-PTCP be-3SG
'look how this flower has grown'

Deviations like these tend to occur because children's syntactic development does not match their cognitive development: they want to express ideas for which they do not yet have the linguistic means (Schlichting, 1996: 87). The attested word order in subordinate clauses in child Dutch suggests that children produce the standard correct word order in subordinate clauses from the very beginning (Wijnen & Verrips, 1998: 246).

Subordination can thus be said to emerge relatively late in child Dutch. By the time subordination does appear, children hardly ever have problems with the word order in subordinate clauses, but may find it difficult to produce the appropriate subordinating conjunctions.

5.4.3 English subordination

English also offers the possibility of combining two simple clauses into one complex clause, either through subordination or through coordination. As in

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[42] The replacement of the pronoun *ik* ('I') by *ikke* is frequently attested in child Dutch and can be analyzed as children's attempts at regularization of the system. Personal pronouns typically have a strong and weak form, as in *wij-we* ('we') or *jij –je* ('you-SG'). The first person singular pronoun *ik* does not have such a strong/weak distinction, but the form *ikke* is likely to be formed by analogy of the existing pronoun forms, like *wij-we*.
[43] *Even* ('just') is often reduced to *effe* in colloquial Dutch.

Dutch, the difference between these two clause-combining techniques lies in the status of the two components to be linked: if they share the same status on the grammatical hierarchy, they are coordinated. If, on the other hand, one sentence is syntactically superior to the other, the two components are subordinated. Examples of coordination and subordination are given in (36a) and (36b) (Quirk et al., 1985: 44-46).

36a) *it was Christmas day and the snow lay thick on the ground*
36b) *the weather has been remarkably warm since we came back from Italy*

An important contrast with Dutch is that English subordinate clauses do not have a different word order from main clauses: the verb occupies the post-subject position in both main clauses and subclauses. This contrast between Dutch and English is illustrated in examples (37a-b) and (38a-b).

37a) *it is raining today* (independent clause)
37b) *because it is raining today* (dependent clause)
38a) *het regent vandaag* (independent clause)
it rain-3SG today
'it is raining today'
38b) *omdat het vandaag regent* (dependent clause)
because it today rain-3SG
'because it is raining today'

Like Dutch, English has a special set of closed-class words that can fulfill a subordinating linking function, for example *after, although, before, until, so that, as* and *whether* (Quirk et al., 1985: 998).

The selection of subordinators depends on the form and function of the subordinate clause it introduces. For example, so-called purpose clauses, which denote something that has not yet been achieved, select subordinating conjunctions such as *in order* (see (39), Quirk et al., 1985: 1107).

39a) *they left the door open, in order for me to hear the baby*

If, on the other hand, the subordinate clause is a result clause, which can be classified as factual rather than putative, subordinators like *so that* and *so* tend to be selected, as in (39b) (Quirk et al., 1985: 1108).

39b) *I paid him, so (that) he left contented*

On the whole, the English and Dutch systems of subordination may share many characteristics, but the two languages clearly diverge with respect to word order in subclauses.

5.4.4 The attrition of Dutch subordination

Table 5.4 presents a summary of Dutch subordination.

Table 5.4: Properties of Dutch subordination

	general	**temporal/conditional/ causal subordination**	***dat*-subordination**
acquisition	3;0-?	early/mid	later
conditioning	semantic/syntactic	semantic/syntactic	syntactic
frequency	high	high	high
functionality	yes	yes[44]	yes
L2 equivalent	yes	yes	yes

On the basis of this table, temporal, conditional and causal subordinate clauses stand a better chance against attrition than subordinate clauses introduced by *dat,* mostly because *dat*-constructions are acquired later than temporal and causal subordination, but also because they tend to be purely syntactically conditioned and do not have a semantic motivation. Moreover, the English word order system in dependent clauses might influence the Dutch of attriters; it is possible that Dutch émigrés start producing subordinate clauses with V2 rather than verb-final word order.

The attrition of Dutch subordination has never been examined, but research on German subordination found little attrition (Schmid, 2002). The

[44] It is important to note that, although English has equivalent subordinate constructions to Dutch, the use of subordination in English does not impact on word order as in Dutch.

investigation found deviant word orders in 2% of all cases. Most mistakes were attested in contexts where more material intervened between the subordinator and the verb in final position, which was explained as subjects finding it harder to keep track of the finite verb (Schmid, 2002: 166-168). In addition, more interferences were found in *daβ*-constructions, equivalent to Dutch *dat*-clauses (Schmid, 2002: 168).

5.4.5 Predictions regarding the regression hypothesis and subordination

Subordination is cognitively demanding, which explains the fact that coordination develops earlier than subordination in child Dutch. It can thus be hypothesized that attriters are likely to use an overall higher proportion of coordination than subordination. Developing language systems, apparent in acquisition and attrition, are likely to show linguistic confusion, with mistakes occurring in the selection of subordinators as well as in the word order of subordinate clauses. The following implicational hierarchy summarizes the points presented in this section:

coordination	<	subordination with temporal, conditional or causative clauses (where mistakes occur in the subordinator or word order)	<	appropriate subordination (with respect to the subordinator and word order)

5.5 Discontinuous word order

5.5.1 Dutch discontinuous word order

In addition to the verb second rule and the dominant verb-final word order in subordinate clauses, Dutch is also subject to the so-called Particle rule, which specifies that, in main declarative clauses, the finite verb is always placed in second position and the non-finite part of the verb phrase occurs sentence-finally (see also Schmid, 2002: 152). In German, which displays the same discontinuous structure, this order has been captured in the formula V_{fin}-X-$V_{non\text{-}fin}$ (Schmid, 2002: 165). The nature and amount of material that is allowed to intervene between the finite and non-finite part of the verb phrase varies, but it is likely that the more material occurs in this frame, the harder it is to keep track of the information flow of the clause.

Dutch discontinuous word order in main clauses can be subdivided into three structure types: a modal or another auxiliary followed by an infinitive (40a); an auxiliary plus a past participle in periphrastic constructions (40b); or discontinuous word order in separable particle verbs (40c).

40a) *ik wil$_{fin}$ in het bos wandelen$_{non\text{-}fin}$*
I want-SG in the forest walk-INF
'I want to walk in the forest'

40b) *ik heb$_{fin}$ in het bos gewandeld$_{non\text{-}fin}$*
I have-1SG in the forest walk-PTCP
'I have walked in the forest'

40c) *ik knap$_{fin}$ van een wandeling in het bos altijd enorm op$_{particle}$*
I pick-1SG always from a walk in the forest much up
'I always feel much better from a walk in the forest'

5.5.2 The acquisition of Dutch discontinuous word order

Discontinuous word order tends to emerge simultaneously with V2 structures in child Dutch. This intrinsic link is caused by the fact that the acquisition of finiteness is a prerequisite for both V2 and discontinuous structures (Jordens, 1988b: 132f). Both phenomena tend to emerge between 2;5 and 3;1 (Jordens,

1990: 1411; Wijnen & Verrips, 1998: 230), which makes V2 and discontinuous word order relatively early linguistic developments in Dutch-speaking children.

Although children appear to have reanalyzed the distributional pattern between verb-final and verb-second position in main clauses at 3;1 (see 5.3.2), the question remains whether such a reanalysis results in an awareness of the syntactic relation between both slots. This has been investigated by observing children's treatment of separable particle verbs. Only the finite verbal part of particle verbs can be placed in second position. When the particle verb co-occurs with a tensed auxiliary, however, it is not separated, but appears in holistic form at the end of the clause. This is illustrated in (41a) and (41b), respectively.

41a) *ik bel*$_{fin}$ *jou op*$_{particle}$
I call-1SG you up
'I call you up'

41b) *ik wil*$_{fin}$ *jou opbellen*$_{non\text{-}fin}$
I want-1Sg you up call-INF
'I want to call you up'

If children are aware of the syntactic relation between both slots, we should find attestations of their using both non-separated, clause-final particle verbs and separated participle verbs with the verbal part in second position. (Wijnen & Verrips, 1998: 232). Research has shown that children initially treat particle verbs holistically, as they only occur unseparated in their non-finite form and at the end of the sentence (see 42a) (Wijnen & Verrips, 1998: 233). As soon as children start using the V2 position, however, they tend to produce separated particle verbs in addition to non-separated ones (42b) (Wijnen & Verrips, 1998: 233). This has been taken to suggest that Dutch-speaking children are in fact aware of the syntactic relation between the verb second slot on the one hand and the sentence-final position on the other.

42a) *Mijnie vast houden*
Jasmijn tight hold-INF
'Jasmijn hold on tight'

42b) *doe jij die aan*
do-2SG you that one on
'you put that one on'

Given the fact that infinitives generally precede past participle forms in child Dutch (see 5.3.2), it can be expected that the discontinuous structure of auxiliary/modal + infinitive emerges prior to either auxiliary + past participle or separable particle verb constructions in main clauses.

No studies have examined the nature and amount of intervening material between the finite and non-finite parts of the verb phrase in child Dutch, but it may be expected that children will experience more difficulty when more material is framed, as this increases the need to keep track of the information flow within the clause.

5.5.3 English discontinuous word order

As opposed to Dutch, all verbs in the English verb phrase tend to occur together and English does not show the same discontinuous structures as Dutch where the finite verb occupies the second position and the non-finite verb is placed at the end of the sentence. It is therefore not possible to have English equivalents of (40a) and (40b), as illustrated in (43a and b) below. The first example is a literal translation of the Dutch construction and the second line illustrates the preference of English verb phrases to remain intact.

43a) **I want in the forest walk*
I want to walk in the forest
43b) **I have in the forest walked*
I have walked in the forest

The only exception to this tendency is granted to particle verbs, some of which can be separated in English (see 44). The separation of such verbs is subject to different constraints as in Dutch, an elaborate discussion of which reaches beyond the present study, but can be found in Elenbaars (2006). It suffices to say here that particle verbs can be separated in English just as in Dutch.

44) *I would like to phone him up*

5.5.4 The attrition of Dutch discontinuous word order

Table 5.5 presents an overview of Dutch discontinuous word order.

Table 5.5: Properties of Dutch discontinuous word order

	general	**mod/aux + infinitive**	**aux + past participle**	**separable particle verbs**
acquisition	2;5-3;0+	early	later	later
conditioning	morpho-syntactic	morpho-syntactic	morpho-syntactic	morpho-syntactic
frequency	high	high	high	high
functionality	no	no	no	no
L2 equivalent	no	no	no	no

In general, few discontinuous word order problems are expected in attrition, as the acquisition of such structures tends to take place relatively early. English does not have an equivalent for discontinuous structures in Dutch, which might imply that the L2 cannot encroach on the L1, but it is also possible that Dutch attriters move to a stage where they no longer separate finite and non-finite verbs, as English typically juxtaposes them too.

While no data on the attrition of Dutch discontinuous word order are available, evidence from German suggests that discontinuous structures are not particularly vulnerable to attrition. Interferences were found in only 1.3% of all spontaneous data samples (Schmid, 2002: 163). In the few deviant discontinuous word orders that were attested in the German data set, most mistakes involved auxiliary + past participle constructions, whereas separable particle verbs revealed least errors (Schmid, 2002: 163). In addition, attriters typically had more difficulty with structures that contained more framed material between the second and final verb positions (Schmid, 2002: 164).

5.5.5 Predictions regarding the regression hypothesis and discontinuous word order

The predicted parallels between acquisition and attrition are captured by means of the following implicational hierarchy:

no complex predicates	<	complex predicates of the type aux/mod + inf	<	complex predicates of the type aux+past participle or separated particle verbs

5.6 Summary

By means of summary, the implicational hierarchies presented above are reproduced below.

Negation:

negation by means of *nee* as a clause-external operator with scope over the entire utterance	<	negation by means of clause-internal *niet*	<	negation by means of merged forms like *geen* and *niemand*

Passive constructions:

active constructions	<	short transitive passives (where the first passives occur with *moeten* rather than *worden)*	<	long passives, including intransitive (impersonal) passives

V2:

only the verb-final position is filled (usually by an infinitive)	<	both V2 and verb-final positions are filled (the first finite verbs are usually modals or auxiliaries)	<	complex predicates (where finite verbs occur in second position and nonfinite verbs in final position)

Subordination:

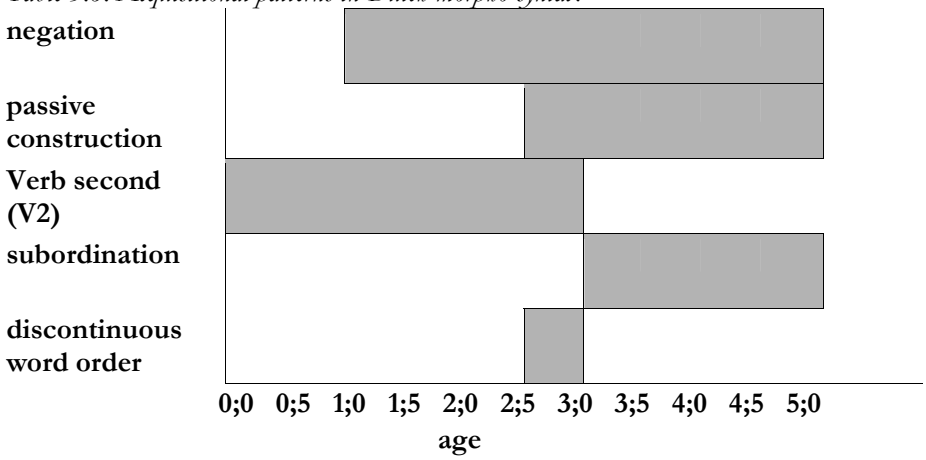
coordination	<	subordination with temporal, conditional or causative clauses (where mistakes occur in the subordinator or word order)	<	appropriate subordination (with respect to the subordinator and word order)

Discontinuous word order:

no complex predicates	<	complex predicates of the type aux/mod + inf	<	complex predicates of the type aux+past participle or separated particle verbs

All the acquisitional patterns reflected in these hierarchies are graphically represented in Table 5.6.

Table 5.6: Acquisitional patterns in Dutch morpho-syntax



It would appear that the features that are most likely to be lost in attrition are negation and passives. Since the age at which the acquisition of subordination is complete is unknown, it is hard to make any predictions with respect to this feature.

Chapter 6
The Study

This chapter presents the research design that was used for the present study. It discusses the subjects and procedures employed, but also provides an overview of the different tests that formed part of the test battery, including a justification for their inclusion, their prior research applications, the adaptations that were made in order to fit the needs of the present study and the administration method and scoring techniques[45]. The tests as they were presented to the subjects can all be found in the Appendix to this study.

6.1 Subjects

Three groups of subjects were included in this study. In order to measure potential attrition effects, data from a group of Dutch emigrants in Anglophone Canada were examined. These data were then compared to those of a group of Dutch control subjects who had never spent an extensive period of time outside the Netherlands. Thirdly, a group of Dutch secondary school students was included to examine the validity of the regression hypothesis in more detail; previous, regression-oriented research compared language loss with initial stages of language acquisition. Especially in the case of non-pathological attrition, the loss effects that were found tended to be very subtle. As a consequence, it is unlikely that emigrants regress to a stage where their L1 linguistic systems resemble that of a four to five-year old. A group of young adolescents was therefore included in this study, who were expected to have nearly completed the acquisition of their L1, but who might nonetheless show linguistic confusion or optionality where mature native grammars do not. The attrition and control group both consisted of 45 subjects, whereas there were

[45] Prior to the data collection, the test battery was pre-tested as part of a pilot study that involved 14 Dutch émigrés in the UK (in the London area) and 14 matched control subjects in the Netherlands. The results from this pretest were used to adapt the individual tests in the battery.

35 children in the acquisition group. It was ensured that each condition contained enough participants to perform statistical analyses. The reason why there were only 35 children instead of 45 can be found in practical considerations. For the sake of time, it was not feasible to test 45 children. In addition, the learners were not compared to the attriters on a one-to-one basis, but, as a group, served as an indication of language proficiency at a nearly complete level. Each group will be discussed in detail on the basis of a number of sociolinguistic variables. First, however, a brief overview of the history of Dutch emigration to Canada will be presented, as the attriters form such a prominent group in this study. A complete list of all the subjects that took part in this study can be found in Appendix 1.

6.1.0 The history of Dutch migration to Canada

Migration from the Netherlands to Canada can be roughly divided into four stages, the first of which took place between 1890 and 1914. The group of settlers of this period mainly consisted of agricultural pioneers. In the next phrase, lasting until the Second World War, they were joined by yet more farmers and farm-hands. The migratory peak, however, did not occur until the first two decades following WW II (the third stage), when as many as 170000 émigrés tried their luck in Canada. The fourth stage took place in more recent years, between 1970 and 1994, when some 38000 more emigrants found their way to Canadian territory, among them many industrial workers, service workers and professionals (Klatter-Folmer & Kroon, 1997: 6).

The postwar peak was caused by a set of factors, of which almost all relate to the fact that the Netherlands had been badly hit during the war and had left its land, transportation systems and energy supplies devastated. As a consequence, a considerable number of Dutch citizens, wanting to improve their living conditions, considered emigration. A great number of houses had been damaged during the war and young couples were often forced to move in with their parents. Many young people chose to migrate to Canada instead. In addition, farmers were often faced with a lack of arable land, and agricultural families thus often considered emigration. Finally, the declaration of independence in the Dutch East Indies, which until 1949 had been a Dutch colony, resulted in many Dutch nationals being forced to move from Indonesia. Many of them went directly to Canada (Elferink & Smits, 1997: 21-

22). In addition, the postwar Dutch government actively tried to reduce population densities and awarded grants to all citizens who moved abroad. This further promoted the migratory wave from the Netherlands after the war years (Elferink & Smits, 1997: 25-26).

The Dutch as a group were welcomed in Canada because of their relatively fast assimilation to the language and culture. Dutch immigrants, it has been claimed, give up their ethnic identity relatively easily, especially in the second and third generations (Schryer, 1998: 1), but there is a considerable amount of "silent ethnicity": many young people tend to find spouses from Dutch origin, and supermarkets typically provide specialty foods and objects, such as wall tiles or copper trinkets (Schryer, 1998: 2).

While Dutch émigrés scattered all over Canada, more than half of them settled in Southern Ontario (see Fig. 6.1), where the Dutch presence is still clearly felt today (Schryer, 1998: 1): Dutch surnames, grocery shops, societies, churches and, more recently, homes for the elderly can be found in abundance.

Fig. 6.1: Ontario, Canada (www.mgchemicals.com/images/map-canada.gif: 5 October 2006)

6.1.1 The selection of subjects

Since only a sample of the entire Dutch Canadian population could be included in this study, a number of selection criteria were imposed. The aim of such a selection procedure was to create as representative a sample as possible. Similarly, the subjects in the adult control group in the Netherlands and the Dutch children were also subjected to a selection procedure.

6.1.1.1 The selection of the Dutch Canadian subjects

A total number of 45 Dutch Canadians were selected to participate in this study. Due to the large numbers of Dutch settlers in Ontario, the orientation of this study concentrated on that Canadian province. Potential subjects were contacted through the help of various organizations and individuals: various Dutch Reformed churches, the Dutch Canadian Society and the Dutch vice-consulate, all located in London, Ontario. While most subjects thus lived in the greater London area, 6 individuals lived in Toronto, Ontario (see Fig. 6.1).

All participants included in the design met a number of selection criteria, based on what previous studies have been able to discover about attrition (see 1.1.3). Table 6.1 presents a schematic overview of all the criteria imposed on the selection of Dutch-Canadian subjects, plus their motivation, and whether or not they were treated as absolute restrictions.

Table 6.1: The criteria for inclusion of the Dutch Canadian subjects

	criterion	motivation	absolute criterion?
1	subjects had to be first-generation emigrants	to ensure that acquisition was compared to language attrition rather than language shift[46]	yes
2	subjects had to be at least 15 years old upon emigration from the Netherlands	to control for incomplete acquisition[47]	yes
3	subjects should have lived in Canada for at least 20 years	to impose a threshold after which potential attrition could have set in	yes
4	subjects should all speak standard Dutch (possibly in addition to a dialect)	dialects often have idiosyncratic rules of grammar, which could distort the findings	yes
5	subjects should not be language professionals (translators, interpreters, language teachers)	to avoid a critical mass of knowledge after which attrition becomes highly unlikely; see critical mass hypothesis (1.1.3)	yes
6	subjects should be married to Canadian spouses	in order to reduce the amount of contact with L1 Dutch	no

6.1.1.2 Establishing a control group

Previous work on attrition has often compared data from attriters to a baseline of 'competent language users', whose speech is error-free (Andersen, 1982: 84; Schmid, 2004: 242). It is, of course, impossible to maintain that no errors occur in the speech of non-attrited, native speakers. For one, such an approach cannot account for phenomena like slips of the tongue (Poulisse, 1999). Other studies have opted for a longitudinal design and have thus assessed attrition as a function of time. The latter approach, too, runs into practical problems. For

[46] It is important to distinguish true attrition (within one individual) from language shift (across generations) (see also Köpke & Schmid, 2004).

[47] Previous attrition studies have occasionally focused on language loss in subjects who moved away from their L1 environments at a very young age (Bolonyai, 1999; Schmitt, 2001). It is likely that these participants had not yet reached a level of complete mother tongue mastery upon

one, subjects may experience so-called retraining effects, where instead of becoming worse through time they become better in their L1 due to increased exposure. In addition, relatively long time intervals are needed between testing sessions in order to find signs of linguistic erosion and many research projects, especially PhD investigations, do not have that option (Jaspaert et al., 1986: 39).

A possible solution for these methodological problems is the invocation of a control group. In this approach, a group of potential attriters is compared to control subjects in the country of origin (Jaspaert et al., 1986). Such a static group comparison was also invoked in the present study. It is by no means clear how to select an adequate control group, however, because emigration is disruptive by definition; it is close to impossible to find a control group whose subjects match those in the experimental condition perfectly in terms of background with the only difference being that the former are not exposed to a second language on a daily basis (Schmid, 2004: 248).

6.1.1.2.1 The selection of the Dutch control subjects

In this study, efforts were made to let the subjects in the control group resemble those in Canada as closely as possible. In a number of cases, the control subjects were siblings of those in Canada. In all cases, the participants in the control group were matched on a one-to-one basis to those in Canada with respect to the extralinguistic variables of age, gender, educational level, and region of birth and upbringing.

A total number of 45 subjects in the Netherlands were selected in this way. They were found through personal contacts and through relations of the subjects in Canada. In addition, many participants were contacted through a volunteer organization called *'t Gilde* ('the Guild'), which supports various community-oriented projects in the Netherlands and attracts many elderly people. For obvious reasons, fewer selection criteria applied here than in the case of the Dutch Canadians. The controls only had to fulfill two criteria. Most importantly, they could never have lived outside the Netherlands. In addition, all language professionals (such as translators or language teachers) were excluded from participation.

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emigration. What is measured can therefore not be taken as evidence for attrition, but most likely indicates a gap in linguistic knowledge that was there before attrition set in.

6.1.1.3 The selection of the children

All the learners that were included in this study attended secondary school and all of them participated on a voluntary basis. Three schools were contacted, two of which taught at a basic secondary level (called VMBO-T) and one offered a higher-level secondary education referred to as HAVO. The subjects in the acquisition group attended one of these three schools, which were approached through personal contacts. Furthermore, all the children matched one important selection criterion: they were all monolingual in the sense that the language spoken both inside and outside of the home was Dutch.

6.1.2 Characteristics of the population samples

The group characteristics of the three conditions that resulted from the application of the selection criteria are discussed on the basis of the extralinguistic variables of age, gender, educational level and region of birth and upbringing. The factor of language contact is also reviewed, but only pertains to the Dutch Canadian group[48]. All group characteristics were assessed by means of a sociolinguistic questionnaire (see 6.3.1).

6.1.2.1 Age

The role of age in both L1 and L2 acquisition has been the topic of numerous debates within linguistics. There is a general consensus that an early age of acquisition tends to result in a more successful mastery of language than a more advanced age. A critical period is often assumed after which language acquisition is more effortful (Lenneberg, 1967; Newport, Bavelier & Neville, 2001), but no agreement exists as to the exact cutoff point. Related to this is that an early onset of L2 acquisition in migration situations is often associated with an early onset of L1 attrition. Several studies have found considerable erosion in those cases where the age at onset of attrition could be traced to a pre-puberty stage (cf. Ventureyra & Pallier, 2004). The question then arises whether such studies have measured attrition or whether they have tapped into incomplete acquisition. Table 6.2 gives an overview of the mean age of all subjects at the time of testing in the present study.

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[48] No correlation was found between any of the predictor variables examined in this study.

Table 6.2: The distribution of age of the subjects

	mean age	**SD**	**age range**
1: attriters (n=45)	66.40	7.38	41-79
2: controls (n=45)	66.20	7.95	45-80
3:acquirers (n=35)	13.91	0.74	13-16

Anecdotal evidence suggests that an advanced age is often associated with general memory deficits. Because of that, this study aimed at an age limit of 75 for the two adult conditions. It did not prove possible to observe this criterion very strictly, however, and 3 subjects in Canada as well as 5 participants in the adult control group exceeded the threshold of 75. None of these subjects was found to show any signs of memory deficits and all of them were capable of completing the test battery without any major difficulty, thus justifying their inclusion.

Similarly, the aim was to only include those children who were either 13 or 14 years old in order to ensure that the sample represented language users who were on the brink of complete L1 mastery, but who might nonetheless show optionality were mature grammars do not. While the majority of children were indeed 13 and 14 years of age, the child group included 5 students who were 15 years old and one student of 16. None of these 6 subjects had informed the researcher of this fact when they had been selected to take part in the study and it was only during the actual data collection that this information was revealed. Since the 15 and 16-year olds did not perform noticeably better or worse than their younger peers, it was decided to include them in the analyses.

6.1.2.2 Gender

Previous work on language acquisition has occasionally revealed a greater aptitude for language learning in girls than boys (Pajares, Johnson & Miller, 1999). Studies on language variation and change, too, have shown gender to be an important predictor variable (Schmid, 2002: 22). While gender may also play a role in attrition, it remains important to investigate this within cultural contexts: only in cultures where women are expected to stay home can gender

be expected to correlate with L1 retention (Schmid, 2002: 22). Only one attrition study has included gender as a predictor variable (Köpke, 1999), but did not find it to have a large effect on the results. To nonetheless control for this variable, Table 6.3 presents the number of male and female participants per group.

Table 6.3: The distribution of gender of the subjects

	number of male subjects	**number of female subjects**
1: attriters (*n*=45)	21 (46.7%)	24 (53.3%)
2: controls (*n*=45)	21 (46.7%)	24 (53.3%)
3: acquirers (*n*=35)	20 (57.1%)	15 (42.9%)

6.1.2.3 Educational level

Past research has shown that language aptitude in acquisition is not linked to general intelligence (IQ): aptitude was found to vary considerably across individuals, while not correlating with other cognitive factors like IQ (Köpke, forthc.). The issue of intelligence has been largely ignored in attrition studies, however. Its non-categorical nature and the fact that it is hard to classify in a multilingual and multicultural setting have been taken as reasons for this neglect (Köpke & Schmid, 2004: 10). The best way of quantifying intelligence may be through the factor of educational background.

Those studies that have looked at the effects of education on attrition have generated variable outcomes, which suggests that the issue might be more complex than has previously been assumed (Köpke & Schmid, 2004: 10). A higher level of education may be associated with the critical mass hypothesis (see 1.1.3). In other words, reading more advanced texts in tertiary education may create a degree of language awareness that could facilitate language retention. Because of the potential impact of education on the results of this study, an overview of the educational background of subjects in this study is given in Table 6.4. The figures indicate the number of subjects who had completed each type of education.

Table 6.4: The distribution of educational level of the subjects

	1:attriters (*n*=45)	**2:controls (*n*=45)**	**3:acquirers (*n*=35)**
primary school	3 (6.7%)	1 (2.2%)	
secondary school basic	20 (44.4%)	15 (33.3%)	25 (71.4%)[49]
secondary school plus	8 (17.8%)	11 (24.5%)	10 (28.6%)
college	6 (13.3%)	10 (22.2%)	
university	8 (17.8%)	8 (17.8%)	

6.1.2.4 Region of birth and upbringing

While the rate of acquisition and attrition is not expected to differ much as a function of region of birth and upbringing, it may cause deviations from the standard pattern of acquisition and loss, as dialects typically show idiosyncratic grammatical rules or word formation processes. In order to control for the geographical origin of subjects, the Netherlands was divided into three regions: North (comprising the provinces of Friesland, Groningen and Drenthe), Central (the provinces Overijssel, Gelderland, Utrecht, Flevoland, Noord-Holland, Zuid-Holland) and South (the provinces Limburg, Brabant and Zeeland). Table 6.5 presents the number of participants from each of these regions, split out per group. In addition, Fig. 6.2 shows the three-way regional division by means of a map of the Netherlands. This figure clearly shows that most provinces are located in the central part of the Netherlands. Moreover, the population density is also highest in these central provinces. Consequently, it is not surprising that most subjects who were included in the present study had their roots in the central part of the Netherlands. All subjects indicated that they spoke standard Dutch, sometimes in addition to a dialect.

[49] Although the figures for both adult groups constitute the number of people who completed a particular form of education, the children had not yet left school. Instead, the figures represent the number of children currently enrolled in that form of education. All basic secondary school level students were in their second year, while the higher level students had already started their third year.

Table 6.5: The distribution of region of the subjects

	north	**central**	**south**
1:attriters (*n*=45)[50]	15 (33.3%)	19 (42.2%)	9 (20%)
2:controls (*n*=45)[51]	8 (17.8%)	27 (60%)	8 (17.8%)
3:acquirers (*n*=35)[52]	0	35 (100%)	0

Fig. 6.2: the three regions of the Netherlands
(adapted from www.nfhouse.org/images/map/NL_gross.gif: 5 October 2006)

6.1.2.5 Language contact

Neither language acquisition nor language attrition occurs in a vacuum. Instead, children acquire language in interaction with their environment (see 1.2.2). Attriters, too, only lose their first language following a change in their personal situations, both linguistic and non-linguistic. In the case of attrition, it seems

[50] The number of subjects from these regions does not add up to 45. That is because 2 Dutch Canadian subjects were born in Indonesia, which at that time was a Dutch colony, but moved back to the Netherlands during early childhood.
[51] Geographical data from two subjects in the control condition are missing.

intuitively obvious that the amount of contact a speaker still has with the L1 influences the retention of that first language. On the other hand, an increased contact with an L2 might lead to a more rapid loss of the first language. It is harder to control for this factor than for any of the other extralinguistic variables discussed above, as language contact is non-categorical in nature and is therefore not discrete or quantifiable (Schmid, 2002: 23). L1 language contact will only be discussed in relation to the Dutch Canadians, as it is not relevant with respect to the other two conditions.

All Dutch-Canadian subjects reported that they had revisited the Netherlands since settling in Canada. Almost half of the subjects (48.9%) indicated that such visits were frequent (every few years), while the other half (51.1%) said that they only revisited the Netherlands every 5 to 10 years. Apart from these visits, the majority of subjects (73.3%) reported that they were in frequent contact with family and friends in the Netherlands and almost all of those people used Dutch as a means of communication when contacting acquaintances in the Netherlands. A majority (55.6%) indicated that they thought it was important to maintain their Dutch language proficiency. They did not automatically hold such views with respect to the next generation, however, as two thirds of the subjects (66.7%) did not have an opinion about their children's use of Dutch or considered it relatively unimportant for their children to be conversant in Dutch.

Given the fact that the participants were recruited through Dutch organizations, it was expected that all of them would at least use Dutch in these settings. However, the language of all church services as well as the dominant language used at the Dutch-Canadian club and vice-consulate was reported to be English. The use of Dutch was found to be confined to the home and only in those cases where both partners were of Dutch origin: 51.1% of all subjects said that they used both English and Dutch at home, although English was the dominant language. Conflating all items of the sociolinguistic questionnaire that pertained to contact with Dutch, 44.4% of all subjects indicated that they used Dutch regularly, ranging from a few times a week to almost daily. On the other hand, 55.6% said that their use of Dutch was confined to a few times a month or year. In short, the role of Dutch in the daily lives of Dutch émigrés in this

[52] Although the children attended three different schools in three different provinces, all the schools were located in the central provinces of the Netherlands.

study varied greatly and correlated with the language background of their respective partners. All subjects reported that they were in everyday contact with L2 English.

6.2 The procedure

The overall procedure followed for the two adult groups was different from what the children were asked to do. The adult groups and the child group will therefore be discussed separately.

6.2.1 The data collection procedure for the adult groups

Most data collection took place in subjects' homes. In a number of cases subjects preferred to meet somewhere else and in those instances, testing took place in a room of the University of Western Ontario in London, Ontario (for the Dutch Canadian group), or in a room of the Vrije Universiteit in Amsterdam, the Netherlands (for the Dutch control group).

After an informal chat in Dutch, several tests were administered that all formed part of the test battery (see 6.3). Subjects were told that they were part of a research project on language change. They were informed how Dutch in the Netherlands had changed greatly over the past years and how the subjects in Canada might not have experienced these changes and were therefore being used as a model for Dutch as it was spoken a number of years ago. Participants were deliberately not informed about the language attrition aspect of this study, as this might have had the effect of people 'reading up' on their Dutch or might have led to linguistic insecurity, both of which might affect the results of the study. The term 'language change' was considered to be less charged than language attrition, while still justifying the various language tasks that subjects were asked to complete. All participants were told that there were no right or wrong answers in any of the tests.

Virtually all the subjects were tested individually, but in a number of cases husband and wife were tested in dyads. In these cases, it was ensured that the participants could not influence each other, by asking them to fill in the written tasks in silence. While one of the two completed his or her narrative as part of the film retelling task (6.3.2), the other person was asked to leave the room. Completion of the test battery took approximately two to two and a half hours per subject. In those cases where subjects needed more time to complete the

tasks, they were asked to fill in the can-do scales (6.3.6) at their own leisure. A pre-stamped and addressed envelope was left and subjects were asked to return the completed questionnaire, which the majority of them did. The reason for not allowing more than two and a half hours for the completion of the test battery was that fatigue factors might influence the results.

The sociolinguistic questionnaire (see 6.3.1) was always administered first, but the order of administration of the other tasks varied randomly. With the exception of the C-test (6.3.3), all the tests in the test battery were self-paced. During data collection, a logbook was kept for each subject in which the time it took him or her to complete each task was recorded. In addition, all occurrences of doorbells, telephones or anything else that might influence the results were written down. Virtually all data consisted of written tests, with the exception of the film retelling task (6.3.2), which was an oral exercise. At the end of the test session, subjects were reimbursed for their time and effort. The subjects in Canada each received twenty Canadian dollars, whereas the control subjects in the Netherlands were given fifteen euros per person.

6.2.2 The data collection procedure for the child group

The children did not complete the whole of the test battery. As a consequence, the children took less time to complete the test battery than the adults, typically not taking more than one hour. Data collection invariably took place in a classroom in the children's own schools and after they had finished their regular classes, so as not to interfere with their school work. All children were tested in dyads, but it was ensured that they could not influence each other by instructing them to complete each of the written tasks in silence. While one child of each pair completed the film-retelling task, the other student was asked to complete another task in the hallway outside the classroom.

The acquirers received the instruction that this was a language change project and that they would be tested to see if their language use was different from that of adults. They were told that this was not a test like the ones they had to do at school and that there were no wrong or right answers. As in the adult groups, all of the tests were in written format, with the exception of the film-retelling task. Logbooks were kept to record the time it took each child to complete the tasks. In addition, notes were made of children's remarks and questions as well as all instances of bells to signal the end of classes or noises

outside the classroom. Each child was given ten euros by way of reimbursement.

6.3 Materials

Past research on language acquisition and language attrition has often relied on either free spoken data in the form of elicited narratives or story-retellings (de Bot & Clyne, 1994, Schmid, 2002) or on explicit language tasks, such as translation tasks or grammaticality judgments. Very few studies have used a combination of both, while the use of only one kind of data is bound to run into practical problems. On the one hand, subjects may use avoidance strategies in free speech (Schmid, 2004: 244/245). In other words, participants may avoid constructions they find difficult. On the other hand, if all the evidence is based on language tasks, the conclusions that are drawn on the basis of the data are necessarily based on unnatural language use (Keijzer, 2004: 390). For example, people do not usually translate sentences from one language to another in everyday life, but are asked to do just that in a translation task. In an attempt to overcome such methodological pitfalls, the present study incorporated both means to elicit spontaneous speech and more controlled language tasks.

6.3.1 The Sociolinguistic Questionnaire

Sociolinguistic questionnaires have been widely used in the past, as they offer an easy way of collecting background information for a large number of subjects. Sociolinguistic questionnaires can be applied in different ways: they can be used as screening mechanisms on the basis of which subjects are selected, but also as sole testing devices in research designs that rely exclusively on self-assessment data. The most common practice, however, is to employ the sociolinguistic questionnaire as a complement to a test battery in order to collect background information for each subject, which, in turn, can be used to account for some of the research outcomes.

6.3.1.1 The application of sociolinguistic questionnaires in past research

Sociolinguistic questionnaires are not frequently attested in acquisition studies, but are very common in attrition research. In fact, almost all attrition studies

employ some sort of questionnaire. In a number of cases, questionnaires play a very prominent role, for example in Hulsen (2000), who used no fewer than four questionnaires. Their outcomes were correlated with results on language processing tasks (a picture-naming task and picture-word matching task, respectively). The surveys she used included a standard sociolinguistic questionnaire with questions concerning socio-biographical, personal characteristics (age, education, language background of partner, etc.) (Hulsen, 2000: 55). In addition, a subjective ethnolinguistic vitality (EVT) questionnaire was used. This measured informants' attitudes towards both their own language and migrant group and towards the language and background of the majority of the population, in Hulsen's case migrants to New Zealand of British descent (Hulsen, 2000: 56). Third, informants were asked to rate their own language proficiency by means of so-called can-do scales (see 6.3.6). Finally, they were asked to complete a social network questionnaire that contained questions about personal networks and the language the respondents used with different relations (Hulsen, 2000: 58-59).

Apart from the kind of questionnaires, sociolinguistic surveys also differ with respect to the format of their questions, which vary from open questions to multiple choice ones. In addition, Likert scales by means of which informants can indicate their low or high involvement on a certain statement are often used[53]. It is not uncommon to find a combination of these three question types within one questionnaire.

6.3.1.2 Aim for the present investigation

The sociolinguistic questionnaire employed in this study was used solely to obtain background information for each subject, which could have explanatory power with regard to the outcomes of the study. As such, it served as a means of acquiring a complete picture for each subject.

[53] Some researchers would argue that the term Likert scales can only be applied to scales that rank from 'totally agree' to 'totally disagree' and scales using any other formulations have to be referred to as ranking scales instead. Since the majority of researchers still use the term 'Likert scale' in a broader context, all scales employed in the present study are also denoted as Likert scales.

6.3.1.3 Format employed in the present study

Three different questionnaires were combined in this study, one for each group of subjects. The most elaborate questionnaire was presented to the Dutch Canadian group and consisted of 79 items. The questions that were asked can be roughly grouped under five denominators: personal background; language use; language attitudes; social networks and, finally, identity or ethnolinguistic vitality. In this way, the sociolinguistic questionnaire combined aspects from the most prevalent questionnaires used in attrition research. The questions were presented as open-ended questions, as multiple choice ones or on a five-point Likert scale. The attrition group-questionnaire was available in both Dutch and English and subjects were given a choice which version of the questionnaire they felt most comfortable completing.

The questionnaire for the Dutch control subjects only contained 32 items, as none of the questions tapped into migratory issues. All remaining items investigated the personal background of subjects. In this questionnaire, too, all three question formats appeared: open questions, multiple choice ones and Likert-scale items.

Finally, the sociolinguistic questionnaire used in the child group was very concise and consisted of only 15 items. While most of the questions were open-ended ones, multiple choice and Likert-scale items were also included. The main objective of the use of the questionnaire in the child group was to obtain personal background information, but also information about language aptitudes. For example, students were asked whether they enjoyed foreign language education at school. All three questionnaires can be found in Appendices 2a to 2d.

6.3.1.4 The administration of the sociolinguistic questionnaire and scoring method

The sociolinguistic questionnaire provided a way of putting subjects at ease, because it usually resulted in a casual conversation between the researcher and the informant. It was therefore administered at the start of the test battery. In most cases, subjects completed the questionnaire themselves, but elaborated on their questions in oral discussion with the researcher. The instruction participants received was that they would be asked a number of questions about their personal backgrounds, including language background. As the main

purpose of the sociolinguistic questionnaire was to collect background information, it was not analyzed statistically.

6.3.2 The film-retelling task

Film-retelling tasks can elicit free spoken data while at the same time providing a format that results in comparable data: all subjects see the same film clip and are asked to retell the same plot. When using films to elicit free speech, it is vital that the film in question does not contain any speech in order to allow subjects to create their own narratives.

6.3.2.1 The application of film-retelling tasks in past research

While acquisition studies have shown a preference for picture-based story retelling (cf. Reilly, Losh, Bellugi & Wulfeck, 2004), silent films have predominantly been used in attrition research (e.g. Pavlenko, forthc.). Charlie Chaplin films are ideally suited for this purpose, as is evidenced by their wide application in language loss research. This is especially true of a particular excerpt from *Modern Times*. The first application of this segment in linguistic research was in examining the second language acquisition of adult immigrants (Perdue, 1993; Bos, 2001), where the film clip was used in a longitudinal design to record the progress that subjects had made. *Modern Times* has also been invoked in attrition studies (cf. Schoenmakers-Klein Gunnewiek, 1998).

In all previous applications, approximately 20 minutes of film were shown to the subject, briefly introduced by the researcher. During the first 10 minutes, the researcher and subject watched the film together, but the researcher left the room for the remaining 10 minutes. In this way, subjects had to take into account which referents were familiar to the researcher and which ones had to be introduced into the discourse. After the film clip had finished, the researcher stepped back into the room and asked the subject to retell what he or she had just seen in as much detail as possible. This narrative was then recorded. Studies differ with respect to the policy adopted in the case of fragments that subjects initially did not include in their narratives. While some studies merely reminded subjects of the fragments in question and asked if they could retell what had happened, others played the omitted clips again and then asked subjects to relate what had happened.

6.3.2.2 Aim for the present investigation

The construct of the film-retelling task was used in the present study in order to elicit free spoken data that is comparable across subjects. Charlie Chaplin's *Modern Times* was selected for its wide availability and for its past application in linguistic research. Because of the last-mentioned fact, the passages to be used for retelling purposes had already been described in detail and results were available that could be compared to the outcomes of the present study.

6.3.2.3 Format employed in the present study

Due to time constraints, it was not feasible to watch the whole twenty minutes that previous research had used. Instead, only ten minutes of film were played to each subject. A scene-by-scene description of the particular sequence that was selected can be found in Appendix 3a.

6.3.2.4 The administration of the film-retelling task and scoring method

Before the film started, subjects were told about previous events leading up to the particular sequence in question and were informed that they would be asked to retell the sequence in as much detail as possible after the clip had been stopped. They were also told that the purpose of this test was to see how they retold a story and that it was not a memory test. They then sat down to watch the film fragment on a laptop screen. The researcher did not leave the room during the film, but did not actively engage in watching it with the subject either. The participants were free in their method of retelling. In those cases where certain events were missing in the narratives, subjects were reminded of these fragments and prompted to relate the omitted parts. The whole narrative was recorded on minidisk, which resulted in approximately 5 to 10 minutes of film retelling for each subject. Each speech sample was then transcribed orthographically and converted to a standard format that was originally used in a project on the spontaneous interactions in child language acquisition: CHILDES (Child Language Data Exchange System, MacWhinney, 2000). The transcription and coding format that is part of the CHILDES project, CHAT (Codes for the Human Analysis of Transcripts, MacWhinney, 2000: 14), makes it easier to carry out a large number of automatic searches and analyses by

means of the accompanying CLAN program (Computerized Language Analysis, MacWhinney, 2000: 9). The use of CLAN allows for so-called *vocd* analyses, which can be used to assess the overall language proficiency by establishing a lexical diversity measure D.[54]

D is calculated by means of random sampling (without replacement) of tokens in the transcript and can therefore control for clustering of the same vocabulary items at particular points in the transcript (Richards, 2000: 329). High D values are associated with a high level of lexical diversity, while lower D values are reached for lower diversity samples (MacWhinney, 2000: 136). The validity and reliability of the D parameter have been found to be sufficient as a result of being testing on the basis of various language samples, ranging from child language to varieties in adult second language learners. An example of a CHAT-formatted transcript can be found in Appendix 3b.

In addition to D values, all transcripts were subjected to so-called MOR analyses by means of CLAN. The MOR program is designed to automatically analyze the morphological category of each word in the transcript, regardless of the context (MacWhinney, 2000: 113). As such, the program can generate the number of times a given morphological phenomenon is used and the program was therefore employed to see if, for example, the simple past tense occurred more or less than periphrastic constructions in the narratives (see 4.2.2). Although automated MOR analyses are not always fully reliable, they can provide a rough indication of the frequency of a phenomenon.

Finally, the CHAT-formatted transcripts were all coded for deviant language use. For this purpose, error tags were added to the transcripts, whose labels specified the nature of the deviation. Most importantly, error tiers were created for each of the 15 morphological and morpho-syntactic features under investigation (see Chapters 3-5). In addition, however, instances of code-switching (in the Dutch-Canadian group), hesitations or retractions were also

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[54] D is essentially a measure of vocabulary diversity or richness of language use. Overall measures of language proficiency, such as vocabulary diversity, are very common in applied linguistics, including child language development, language impairment, but also foreign and second language learning (Richards, 2000: 324). Past research assessing vocabulary diversity has typically relied on the ratio of different words (Types) to the total number of words (Tokens), also known as the Type-Token-Ratio (TTR). Type-Token measures have the disadvantage of resulting in lower TTR values in longer stretches of data and higher TTR values if the language sample contains fewer tokens (Richards, 2000: 324).

marked. Although not the object of this study, such information could prove useful for future studies on attrition and advanced acquisition.

6.3.3 The C-test

The C-test is essentially a variant of the cloze procedure, which became very popular in foreign language testing in the 1980s due to its easy construction and scoring method (Oscarson, 1991: 104). Cloze tests are characterized by gaps (deleted words) in authentic texts, which the subject has to complete again. The use of gapped texts in language research has been widely investigated and cloze procedures are generally believed to tap into lower-level overall language proficiency, such as knowledge of vocabulary, grammar and idioms. More recently, it has been claimed that cloze tests can also provide information about higher-order skills, such as global reading comprehension and "intersentenial relationships" (Oscarson, 1991: 104), but this is not without controversy.

Cloze formats build on the concept of reduced redundancy and internalized pragmatic expectancy grammar developed by Oller (Oller & Streif, 1975). Any 'reduction of redundancy' in a text, which is created through the deletion of words, will increase the processing difficulty for non-native speakers, while no strong effect is expected for native speakers (Gradman & Spolsky, 1975: 59). A native speaker will have internalized a grammar that causes him or her to expect certain linguistic elements while going through a text. For example, a native speaker intuitively knows whether a deleted element in a sentence belongs to the category noun, verb or adverb.

Like the cloze test, C-tests also build on reduced redundancy and expectancy grammar and the C-test's aim is to function as an assessment of overall language proficiency as well. The procedure was introduced in 1981 by Klein-Braley and Raatz (Raatz & Klein-Braley, 1982) as a reaction to what they considered to be flaws of the cloze format. These criticisms can be summarized in four main points. First of all, as there is only one text, the cloze test can be unfair due to text specificity. Hard-to-follow and/or uninteresting texts may have a major effect on the test outcome. Second, factors like text choice, deletion rate and starting point of the gaps can all affect test reliability and validity. Third, if a text does not contain many gaps, it has to be extremely long in order to ensure that enough items are included on which to base an assessment. Fourth, and finally, in most cloze tests no distinction is made

between content and function words, while function words are comparatively easier to fill in than content words (Grotjahn, 1987: 219-220).

The C-test was constructed to overcome these methodological concerns. In contrast to one large text employed in cloze procedures, C-tests consist of a number of smaller texts (usually 5 or 6) that each contain approximately 60 to 70 words. The first sentence is left intact to provide enough context material, and gapping starts with the second word of the second sentence. Rather than whole words being deleted, the C-test only gaps the second half of items. In the case of an uneven number of letters, one more letter is deleted than is left standing. C-texts usually contain 20 gaps each (Grotjahn, 1987: 221). When completing the test, subjects are usually given between 4 to 6 minutes to process each text (Murtagh, 2003: 50-52). The rationale for this time constraint is that performance under time pressure can distinguish between levels of expectancy grammars of different people; if subjects are able to carry out this task under time pressure, they are likely to have internalized an active grammar of the language under investigation.

It may be questioned to what extent the new approach offered by the C-test is able to control for the problems identified in the cloze procedure. For example, although less likely, the chance of selecting a number of unsuitable texts remains. Similarly, no control can be exercised over gapping of content and function words in the C-test either. Finally, like the cloze test, the C-test format runs into the problem of face validity: although both are supposed to be authentic tests in that they use authentic material, it remains to be seen to what extent gapping creates natural language samples (Oscarson, 1991: 107).

6.3.3.1 The application of C-tests in past research

The first C-test was designed to assess L2 French proficiency among German students of French philology (Grotjahn, 1987: 219). Its subsequent applications have also largely been within second language acquisition contexts, but C-tests have also been used in bilingualism research (Daller & Grotjahn, 1999). In both these cases, the C-test consisted of four small texts that each contained 20 gaps. Students were told that part of every word was missing rather than half of every word, because such information might have had a facilitating effect.

The C-test has only recently been employed as a way of assessing attrition (cf. Murtagh, 2003), where the language attrition and retention of Irish as a

second language was longitudinally measured in subjects that had left secondary school, where they took Irish as a mandatory subject. The C-test that was used here only consisted of three texts with a total of 88 gaps. Subjects were under time pressure to complete each text within 4 to 6 minutes (Murtagh, 2003: 50-52).

6.3.3.2 Aim for the present investigation

The C-test in the present study was included for its potential to assess general language proficiency and for its relatively easy method of construction and scoring. The fact that only lower-order skills (such as vocabulary, idiom and grammar knowledge) can be reliably tested was not seen as a problem. C-tests can also be a good way of assessing L2 English language proficiency, which might have an effect on Dutch language proficiency in the Dutch émigrés. The subjects in Canada were therefore asked to complete both a Dutch and an English version of the C-test. The English format was not administered for the two conditions in the Netherlands, because insights gained from such an application (foreign language proficiency through explicit classroom instruction) was not considered to be relevant to the present study.

6.3.3.3 Format employed in the present study

The C-test employed in this study consisted of five texts that each contained 20 gapped items. The use of five texts resulted in a variety of topics and also presented an easy method of scoring with a maximum score of 100. The mean number of words in the Dutch texts was 74. On average, 14.4 content words were gapped against 5.6 function words. More content than function words were gapped to increase the task's difficulty. The mean numbers for the English C-test were slightly different: each text contained 80.4 words on average. Considerably more content words were gapped than in the Dutch version, with a mean of 17.6 content words and 2.4 function words per text.

The construction of the C-test largely followed the guidelines set forth in Grotjahn (1987), but deviated in certain respects. For both the Dutch and English versions, ten short texts were selected that were considered to be generic in their topic matter. These ten texts were then presented to native speakers of Dutch and English, who were all students at the Vrije Universiteit in Amsterdam and the University of Western Ontario, respectively. Only those

texts on which native speakers scored between 87 and 90% were included in the C-test, resulting in five final texts. All the texts included were free of direct speech or specialized vocabulary. In addition, texts that were badly written or that did not include contextual information in their first sentence were excluded as well. The texts were taken from various sources, ranging from quality newspapers through glossy magazines to popular scientific magazines. They thus differed in their degree of formality and were sequentially ordered from easy to more difficult on the basis of both level of formality and the outcomes of the pretest.

Gapping started with the second word of the second sentence and half of every word was deleted. In those cases where the word contained an uneven number of letters, one more letter was deleted than was left standing. In a number of cases, it proved impossible to gap every second word, as for example with compounds, words that had occurred earlier in the text, proper names, place names, or instances where gapping would result in a deletion of too many function words. In these cases, the next word was gapped. The Dutch and the English C-tests are presented in Appendices 4a and 4b.

6.3.3.4 The administration of the C-test and scoring method

Before the administration of the C-test, subjects were informed that they would be presented with five small texts, but that parts of certain words were missing. They were then asked to fill in the blanks to the best of their ability and to think aloud as much as possible. Subjects were also told that they could move freely through the text, but that they had a maximum of 5 minutes for each text and that is was not possible to go back to an earlier text. Only one text was presented per page to reduce potential confusion. Where subjects did not need the full five minutes to complete a text, the time that they did need was written down in a logbook (see 6.2.1).

All blanks and unacceptable words (with respect to grammar and/or text content) were scored as 0, while all original words and acceptable variants were classified as correct (1). Acceptable alternatives belonged to the same word class as the original word and also fitted the text content. For example, where *straat* ('street') replaced the intended *stoep* ('sidewalk'), this was counted as correct. To classify such variants as incorrect would undermine the construct of the C-test: correct alternatives are also formed on the basis of expectancy

grammar. In addition, correct alternatives or original words with spelling errors were classified as correct too. Again, the words themselves were formed on the basis of expectancy grammar, even if they were spelled incorrectly.

6.3.4 The Wug Test

The wug test**,** created by Berko (1958), was the first formal test designed to examine whether young children have morphological rules at their disposal. In its original context, the test was administered to preschool and first-grade children in an Anglophone context. It used nonsense items to ensure that children had never encountered the words before and had to apply a productive morphological rule. All nonsense words were based on frequently occurring items in English and conformed to possible English sound combinations (Berko, 1958: 153). In addition, the format contained a number of existing lexical items to check for unproductive usage of morphology. The morphological features that were elicited in the original wug test were plurals, diminutives, adjectives (including comparative and superlative forms), possessives, agentives, compounds or derived words, third person singular forms, progressive forms and past tense forms.

In a self-paced experiment, pictures representing the nonsense word in question were shown to individual children. These pictures took the form of brightly colored objects, cartoon-like animals and men performing various actions. The experimenter would then point to a picture and read an instruction text to the child, such as *This is a wug. Now there is another one. There are two of them. There are two*…. All the answers children produced were noted phonemically (Berko, 1958: 153). Fig 6.3 presents an example of a pictorial clue presented to children in the original wug format.

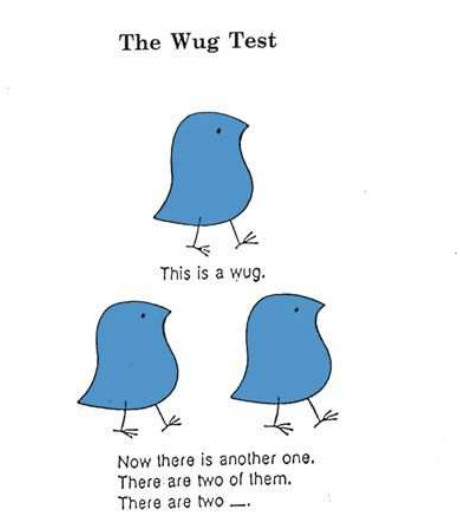

Fig. 6.3: An example of the original pictures presented to children in the wug test
(Berko, 1958)

It was found that, although children did not always produce the correct morphological inflection, they were aware of the fact that English requires certain morphological endings to indicate concepts like the plural or past tense.

6.3.4.1 The application of wug tests in past research

The nonsense word design introduced by the wug test has been widely used in acquisition studies and with respect to many different languages. The cross-linguistic evidence produced in this way has in turn been very important for the clarification of complex issues in the learning of inflectional morphology (Lieven, 2005: 381). Most of the studies that have applied wug test-like elicitation methods have done so in the context of first language acquisition. An exception is the work by Snow et al. (1980) on the acquisition of Dutch morphological rules for plural, agentive and diminutive suffixes. In this study, the L1 acquisition of these rules was investigated in Dutch-speaking 7 and 8 year-olds, but was compared to the L2 Dutch acquisition of three different age groups: 5-10 year-olds, 12-18 year-olds and a group of adults. Pictures were only used for the younger age groups. The instruction texts presented to all subjects are given below, where (1a) shows the instruction for plural inflection,

(1b) the instruction for agentive formation and (1c) shows the text that was used to elicit diminutive suffixes (Snow et al., 1980: 542):

1a) This is a *flik*. Here are two of them. These are two…..?
1b) This is a person who *paps*. What do you call someone who *paps*? A….?
1c) Here we have a *voen*. Here's a little one. The little one could be called a….?

While the nonce design of the wug test would also be relatively easy to employ in attrition studies, few applications are found in this field. Studies that have used explicit elicitation methods of morphological rule application have tended to use existing lexical items rather than nonsense words (Altenberg, 1991).

6.3.4.2 Aim for the present investigation

Morphology, together with morpho-syntax, formed the main focus of the present research. It was therefore important to have a formal way of assessing morphological knowledge, apart from the free spoken data obtained through the film-retelling task (6.3.2). The wug test is easy to construct, easy to administer as well as score and can also test productive rule application through the use of nonsense words. It was because of these reasons that a modified wug test was included in the test battery.

6.3.4.3 Format employed in the present study

The wug test was divided into two parts: a noun phrase morphology and a verb phrase morphology part. The former contained 70 items: 14 for plural inflection, 14 for agentive formation, 14 for adjectival inflection, 14 for diminutive formation, and 14 for article selection. These 14 items were in turn divided into subcomponents, for example, *-s, -en* and irregular plural endings (see 3.1.1). The verb phrase wug test, on the other hand, contained only 50 items: 10 for simple present tense, 10 for simple past tense, 10 for past participles, 10 for auxiliary selection and 10 more items for futurity reference. The 10 items that tapped into each individual feature were again subdivided, for example, *-te(n), -de(n)* or strong past tense marking (see 4.2.1).

The wug procedure used in the present study did not use any pictorial clues to elicit answers, as no young children were included in the design. Instead, the words to be inflected were embedded in a sentence and the construct of sentence completion was thus maintained. Importantly, the modified wug test also predominantly employed nonsense words, as in the original format.

All nonsense words were formed on the basis of relatively frequent Dutch items and were created by replacing one or several consonants, while ensuring that the resulting items constituted possible Dutch sound sequences. For example, the nonsense noun *trag* was based on the noun *vlag* ('flag'). For most morphological features, it was relatively unproblematic to find good nonsense words, but it proved difficult in the case of auxiliary selection (in the verb phrase wug test). In order to select the correct auxiliary, subjects needed to know whether the verb in question was telic or atelic (see 4.4.1). As it is impossible to do this for nonsense verbs, all auxiliary selection items in the verb phrase wug test included existing verbs. By way of an example, the Dutch text that was presented to subjects to elicit the plural is given in (2) below. The whole wug test can be found in Appendix 5.

2) You can have one *trag,* but if there are two, you have two…….

6.3.4.4 The administration of the wug test and scoring method

Prior to administering the wug test, subjects were told that they would be asked to complete sentences and that most of these sentences contained words that did not exist. Subjects were instructed to treat the words as if they were existing lexical items, and were also informed that there were no right or wrong answers. Subjects were furthermore asked to respond as quickly as possible on the basis of their intuitions. All sentences were presented in written form, but were read out simultaneously. As the wug test was essentially a written test, subjects wrote down their answers.

Many of the adults had considerably more difficulty with this task than the subjects in the child group. It was especially the nonsense words aspect that they found difficult. In cases where subjects did not know how to respond, they were instructed to leave the item in question blank and to continue with the next one. Although the wug test was self-paced, most subjects completed the

noun phrase part of the wug test in 10 to 15 minutes on average and took just under 10 minutes to complete the verb phrase wug test. A score of 1 was assigned to every correctly inflected item, while incorrect items were classified as 0. What counted as correct was the inflected form of the word from which the nonce item derived. For example, the plural of *vlag* ('flag') is *vlag(g)-en* on the basis of phonological properties of the stem (see 3.1.1). As a consequence, the plural form of the nonsense *trag* should also be *trag(g)-en* and **trag-s* was not considered to be correct. In a number of cases there were two correct alternatives. For example, a number of nouns ending in schwa (/ə/) have two plural forms, one of them ending in *–n* and the other in *–s*. Thus *kade* ('quay') can pluralize as either *kaden* or *kades* (Booij, 2002: 25). By analogy, the plural of the nonsense *mende* can be either *menden* or *mendes,* both of which were assigned a score of 1.

6.3.5 The Grammaticality Judgment Task

In grammaticality judgment tasks, subjects are presented with constructions whose acceptability they are asked to judge. Grammaticality judgment tasks have been immensely popular in linguistic research, mainly because they can provide information about which structures language users find acceptable and which ones they do not. Such information cannot be easily obtained in less explicit tasks. In addition, grammaticality judgment tasks can examine constructions that do not occur very frequently in everyday, spontaneous speech and which are therefore hard to investigate on the basis of free speech (Altenberg & Vago, 2004: 105). While such judgments are mostly applied in the syntactic domain, they are occasionally used in other areas, such as phonology (Altenberg & Vago, 2004: 106).

There is a great variety in the format of grammaticality judgment tasks. The most important distinction to make is between absolute and relative judgments. Where subjects are asked to provide an absolute rating, the most commonly attested format, they give a rating response on the basis of a sentence that is presented to them. This usually involves a binary choice between correct and incorrect or between good and bad. Occasionally, subjects are asked to indicate a sentence's correctness on a scale that contains more than two points. It has been claimed that the greatest weakness in this method is that the more limited the resolution of a scale, the more constrained the responses

are (Sorace, 1996: 396). The restrictiveness of responses has sometimes been controlled by a third option of 'don't know' or 'in between'. Creating a middle category may induce fear of revealing uncertainty, however, or may result in subjects opting for the middle option all the time (Sorace, 1996: 397-398).

In the case of relative judgments, the responses involve ranking (Sorace, 1996: 395). Sentences are presented in groups of two or more and subjects are asked to rank them from more to less acceptable (Sorace, 1996: 398). Relative judgments are claimed to be more valid, because they resemble what language users do in everyday life more closely, where judgments are inherently comparative in nature (Sorace, 1996: 399). The most recent development in relative judgment tasks is that of magnitude estimations, previously used in psychophysics (Sorace, 1996: 400). When applied to the grammatical domain, subjects are first presented with a sentence to whose acceptability they have to assign a random number. This number can then serve as a basis or guideline on which to judge the rest of the sentences that are presented. For example, if the second sentence seems 20 times more grammatical than the first, the number that is awarded to it should be 20 times larger than the number assigned to the first sentence. While it may seem that some training is necessary in order to do this, it has been shown that subjects are intuitively able to make such magnitude estimations in relation to grammaticality (Sorace, 1996: 401).

Finally, various procedural factors may influence the outcome of grammaticality judgment tasks: the instructions given to the subjects; the order of presentation of sentences; the mental state of the subject; the strategies they use; the modality and register of the stimulus and, finally, the speed at which subjects are asked to judge sentences (Schütze, 1996: 131-150). The role of time in grammaticality judgments is perhaps especially important in attrition research, since it has been suggested that attrition is characterized by a slower processing rate (Altenberg & Vago, 2004: 119-120). On the other hand, time restrictions may interfere with the full utilization of grammatical knowledge (Altenberg & Vago, 2004: 120). This is essentially the distinction between online (timed) and offline (self-paced) designs.

All grammaticality judgment tasks have come under close scrutiny in recent years. Much of the controversy stems from the argument that what subjects are asked to do as part of a grammaticality judgment task is very unnatural. Language users do not commonly assess the grammaticality of sentences, but rather concentrate on their communicative function. In

judgment-type tasks subjects are asked to "do something with language", i.e. rely on their metalinguistic knowledge, rather than "do language" (Altenberg & Vago, 2004: 110). In addition, subjects' responses on grammaticality judgment tasks are not always consistent. Differences have been reported across subjects and, more problematically, within subjects. It has been suggested that grammaticality judgments necessarily show variability, since linguistic knowledge itself is not an either/or phenomenon and some aspects of linguistic knowledge are more stable than others (Altenberg & Vago, 2004: 117-118).

Theoretically, much of the early research that invoked grammaticality judgments justified the use of the task on the assumption that they could tap directly into competence in the Chomskyan sense, but there is currently no consensus that grammaticality judgments can provide a window on the linguistic competence of language users (Altenberg & Vago, 2004: 106-107). Subjects first have to process a sentence before they can judge it and language processing is generally believed to be an activity on the performance level (Altenberg & Vago, 2004: 107).

6.3.5.1 The application of grammaticality judgment tasks in past research

The grammaticality judgment task has been applied in various linguistic projects, ranging from studies in first and second language acquisition to research into communicative disorders and, more recently, to language attrition studies (Altenberg & Vago, 2004: 105). Most past applications of the grammaticality judgment task have asked subjects to make absolute judgments rather than relative ones. In L1 child language acquisition, for example, most judgments tasks have taken the form of a sentence being read out by the researcher. The child was subsequently asked to indicate whether the sentence was 'right or wrong' (cf. McDaniels & Cairns, 1996). It has been suggested that this type of task can be administered with children as young as 2;0 (Altenberg & Vago, 2004: 111).

Grammaticality judgments have most frequently been employed in second language acquisition research (Davies & Kaplan, 1998: 183) and most L2 studies that have used judgment tasks in their design have presented subjects with single sentences (mostly in written format). Subjects were typically given three options: 'correct', 'incorrect' and 'don't know' (Davies & Kaplan, 1998:

187). Both the grammaticality judgment tasks used in L1 and L2 acquisition have commonly followed a self-paced design.

In line with judgments used in acquisition studies, most grammaticality judgments used in attrition studies have been absolute ones, where subjects had to reflect on the grammaticality of a single sentence. For example, Köpke (1999) compared two groups of attriters (attriters of L1 German living in Anglophone Canada and attriters of L1 German living in France), with a control group of monolingual German speakers. She used grammaticality judgments of the kind in (3):

3) **Marie oft ißt Schokolade*
Marie often eat-3SG chocolate
'Marie often eats chocolate'

The stimuli were presented in written form and subjects were asked to indicate whether or not the sentences could occur in spoken language or not and were thus given a binary choice (Köpke, 1999: 252-253).

Only in more recent attrition studies can relative judgments be identified, for example in Ribbert & Kuiken (forthc.). Two sentences were presented at a time. Subjects were asked to indicate for each of the two sentences whether they considered them acceptable or not. In addition, they were asked to state which of the sentences presented in pairs they preferred. In (4), a replication of one of the items used in Ribbert & Kuiken (forthc.) is included:

4) A. **Jan scheint um krank zu sein*
Jan appear-3SG to ill to be-INF
'Jan appears to be ill'
Jan scheint krank zu sein
Jan appear-3SG ill to be-ING
'Jan appears to be ill'

Evtl: Ich würde Satz _ eher gebrauchen ('I would more readily use sentence _')

Most applications of the grammaticality judgment task in attrition research have used a self-paced design, as in acquisition studies.

6.3.5.2 Aim for the present investigation

Despite the criticisms it has received, the grammaticality judgment task was still employed in the present study. The main reason for its inclusion was its ability to explicitly test a variety of constructions that would not necessarily present themselves in the free spoken data. In addition, it is relatively easy to administer and score.

The grammaticality judgment task was not used here as a way of tapping into the linguistic competence of attriters. Rather, it was used to assess where attriters' judgments diverged from those made by non-attrited native speakers. In addition, it was not the only means of assessment, making the outcome of the grammaticality judgment task complementary. Administering grammaticality judgments in conjunction with other language tasks creates an opportunity to examine the workings of this task more closely (Altenberg & Vago, 2004: 124).

6.3.5.3 Format employed in the present study

In the present investigation, the grammaticality judgment task was used to tap into five morpho-syntactic features: negation, passive constructions, V2, subordination and discontinuous word order (see Chapter 5). It contained at least 4 items per construction: 2 incorrect and 2 correct ones. In addition, 12 of the 38 items were fillers to distract subjects from the actual constructions under investigation. In (5), one of the items from the grammaticality judgment task is provided as an example. The whole test is included in Appendix 6.

5) *Vervolgens hoorde ik auto's toeteren*
Then hear-1SG.PST I car-PL honk-INF
'Then I heard cars honk'
0 *Incorrect, het moet zijn* ('incorrect, it should be'):
0 *Ik weet het niet* ('I don't know')
0 *Correct* ('correct')

All grammaticality judgments used in this study were absolute, and subjects were presented with a single sentence at a time. The sentences were presented in written form, but were also read aloud. Subjects were then asked

to rely on their intuitions and to indicate as quickly as possible whether the construction was correct, incorrect or whether they did not know. A middle option ('don't know') was included to see if the subjects in Canada used it significantly more than the subjects in the control group. Whenever subjects judged a construction to be incorrect, they were also asked to provide an alternative formulation.

The earlier pilot study (see footnote 46) had shown that the test's validity significantly increased when sentences were judged as part of a larger context, perhaps because this resembles judgments made in everyday life more closely. The 38 sentences in total were therefore all part of a larger text, which was an authentic newspaper column by the Dutch-Turkish author Nilgün Yerli. This text was modified to render some sentences ungrammatical. A column offers an informal piece of text that is close to the spoken register. The topic of this particular column (taking sides in sporting events) was considered to be relatively generic.

6.3.5.4 The administration of the grammaticality judgment task and scoring method

The grammaticality judgments were presented to the subjects as a task in which they would be offered one sentence at a time, but where all sentences together formed a coherent story. They were told that some of the sentences had been manipulated so that their flow might not be optimal anymore. Subjects were deliberately not informed that some sentences were grammatically incorrect, because this might have increased pressure. Each sentence was read out loud to the subjects, who also had the written text in front of them. Afterwards, they were asked to indicate whether they considered this an acceptable sentence or whether they thought there was something wrong with it. If they felt the sentences to be deviant, they were asked to change the part they did not like. Subjects were informed that the option 'I don't know' was also available for those cases where they found it difficult to provide a label of either 'correct' or 'incorrect'. Although the grammaticality judgment task was untimed (offline), subjects were asked to respond on the basis of their intuition and thus to tick the boxes 'correct', 'incorrect' or 'I don't know' as quickly as possible.

Where subjects had judged grammatical sentences as correct or had provided a valid correction for ungrammatical sentences, they were awarded the

score of 1. In all other cases, a score of 0 was assigned, i.e. where subjects had not been able to respond to an item at all, where they had judged an ungrammatical sentence as correct or where they had provided a correction that did not result in a grammatical sentence.

6.3.6 The Can-Do Scales

Can-do scales offer an instrument on the basis of which self-perceived language proficiency can be assessed. Subjects are presented with a number of statements pertaining to linguistic proficiency, for which they have to indicate their own language ability on a Likert scale. Can-do scales were originally constructed as a self-assessment measure for foreign language proficiency and consisted of a three-point Likert scale (Clark, 1982).

Self-assessments, like the grammaticality judgment task, have come under close scrutiny in recent years. More specifically, the validity of can-do scales has been questioned. When administered in conjunction with other more objective language tasks, they have been found to be a poor indicator of language proficiency. For example, in an L2 study of Dutch, learners consistently overestimated their own language proficiency (Jansen-van Dieten, 1992 in Hulsen, 2000: 23). Similarly, in an L2 French attrition study, subjects indicated they had undergone great amounts of language loss while this was not found in the objective language proficiency measures (Weltens, 1989 in Hulsen, 2000: 24).

Can-do scales appear to be reasonably reliable in the context of L1 attrition. Attrition studies that have employed self-assessment scales (cf. Yağmur, 1997) have found a small but significant correlation between the results of the can-do scales and the outcome of the more objective language proficiency measures. Even in L1 attrition research, however, self-assessments have been found to be influenced by language-external factors, such as language attitudes. It has therefore been claimed that can-do scales can only provide insights of a sociolinguistic kind and should never be used in isolation, but always in conjunction with other, more objective language tasks (Köpke & Schmid, 2004: 25).

6.3.6.1 The application of can-do scales in past studies

In their original context the can-do scales were used for second language acquisition research. After that, can-do scales were also used in foreign language attrition studies (cf. Weltens, 1988; Grendel, Weltens & de Bot, 1993). While the underlying construct of self-assessment remained the same, attrition studies mostly used a five-point Likert scale rather than the original three-point scale (Hulsen, 2000: 58). Furthermore, in attrition studies, subjects were often asked to indicate their self-perceived proficiency in both the L1 and L2. An example of such a can-do statement employed in Hulsen (2000) is provided in (6).

6) [I] understand two native speakers when they talking rapidly with one another.

Dutch	English
1 2 3 4 5	1 2 3 4 5

Subjects were asked to circle the appropriate number: 1 indicated 'cannot do it at all', and 5 equaled 'little or no difficulty'. While the original can-do scales only examined language proficiency within the domains of listening, speaking and reading ability, more recent applications of the format have also included writing proficiency (Hulsen, 2000: 58). Most studies have employed can-do scales in a complementary fashion rather than as the sole means of assessment.

6.3.6.2 Aim for the present investigation

The can-do scales were solely included in the present study for sociolinguistic purposes: in order to see whether the subjects in Canada estimated their Dutch language proficiency to be significantly lower that the control group in the Netherlands. It was used as part of a larger test battery and was thus not the only means of assessment. The outcome of the can-do scales was also correlated with results from other language tasks in the test battery. If anything, this can tell us more about the usefulness of can-do scales in attrition research.

6.3.6.3 Format employed in the present study

The can-do scales that were used in the present study were a standardized set of scales, constructed by the Council of Europe's Common European Framework of Reference for Languages (www.alte-org/can_do/cef.cfm). This initiative forms a basis for the development of language syllabi, curriculum guidelines, examinations, textbooks, etc. across Europe. Its three main goals are to provide a common framework for the planning of language learning programs, but also the planning of language certificates and the planning of self-directed learning. It is these latter two goals that have created the need for standardized can-do scales. Six levels of language learning are distinguished within the common European framework: breakthrough (A1); waystage (A2); threshold (B1); vantage (B2); effective operational proficiency (C1) and mastery (C2) (www.alte-org/can_do/cef.cfm). Despite the fact that each level has two sublevels, this division resembles the classic three-way grid found in language learning, namely that of basic, intermediate and high language proficiency.

The can-do scales consist of a number of statements, accompanying each of the six language proficiency levels that are included in the Common European Framework. In addition, separate statements exist for each of four language domains: listening, speaking, reading and writing. The can-do scales themselves take the form of a checklist on the basis of which subjects can check their own language proficiency. Experience has shown, however, that the consistency of subjects' self-assessment increases when they are not only asked *if* they are able to carry out a certain language task, but also *how well* they are able to do it. In the scales used in the present study, the subjects were therefore asked to indicate their linguistic abilities on a five-point Likert scale. Participants were told that number 1 corresponded to 'I cannot do this at all'; 2 indicated that they could carry out the task described in the statement, but with considerable difficulty; 3 meant that they could carry out that task with some difficulty; 4 could be selected if they could do it relatively easily and 5 should be reserved for those language tasks they did not find problematic at all.

The can-do scales that are part of the Common European Framework are all positively phrased. Rather than statements being of the kind 'the learner can only understand very basic conversations', formulations like 'the learner is able to follow and understand everyday conversations' are employed. In addition, none of the standardized statements contained any linguistic jargon and they were all relatively transparent in that none of them contained complex syntactic

constructions. Nonetheless, the formulation of the can-do scales used in the Common European Framework was slightly revised in order to reduce overall sentence length, but no other alterations were made.

Experience has shown that adult learners can make qualitative judgments about their own language proficiency (www.alte-org/can_do/cef.cfm). Such evidence has not been found for children, however. Because of this, the can-do scales were only administered to the subjects in Canada and the adult controls in the Netherlands, but did not form part of the test battery presented to the child group.

While the statements presented to both adult groups were the same, the subjects in Canada had a choice between completing a Dutch or English version of the can-do scales. This was considered to provide interesting information about language preference (see also the Sociolinguistic Questionnaire, 6.3.1). In addition, subjects in the Dutch Canadian group were not only asked to indicate their language proficiency in Dutch, but also in English to provide a comparative data set. The control subjects, on the other hand, were only asked to indicate their mother tongue language proficiency. Asking them to make judgments about their language ability in English would only result in insights about foreign language learning, which were not relevant for the present study. The can-do scales can be found in Appendix 7, but an example of one statement (pertaining to listening ability) is presented in (7) below.

7) [I] understand most TV programs, such as the news or current affairs programs.

Dutch	English
1 2 3 4 5	1 2 3 4 5

6.3.6.4 The administration of the can-do scales and scoring method

This task was self-directed in the sense that subjects read and responded to the statements without the intervention of the researcher and in their own time. The numbers subjects had circled (1 to 5) were added to form the total scores for the domains of listening, speaking, reading and writing ability.

6.4 Summary

The subjects that took part in this study were selected on the basis of a number of criteria. This resulted in 45 Dutch Canadians, 45 matched control subjects and a group of 35 Dutch secondary school children. These groups were subjected to a test battery that contained an elicitation method of free spoken data (a film-retelling task), controlled language tasks (a C-test, a wug test and a grammaticality judgment task), but also a sociolinguistic questionnaire to collect background information and can-do scales as a means of collecting self-assessment data.

Chapter 7
Results

This chapter presents the results[55] of this study, with respect to both the controlled language tasks and the free spoken data. In particular, it compares the performance of the three groups of subjects and examines any potential patterns between them. In other words, it investigates if the performance on the various tasks across the three conditions shows any parallels or divergences. In order to achieve this, the present chapter first of all reviews the overall language proficiency of all the participants that took part in this study. It then largely follows the structure outlined in chapters 3 to 5, as it first discusses the subjects' performance with respect to noun phrase morphology, verb phrase morphology and, finally, morpho-syntax. This chapter concludes with a short overview of the self-perceived language proficiency of subjects. Although the present study is not sociolinguistic in nature, this chapter does attempt to take the influence of the sociolinguistic factors of age, gender, educational background and region of birth and upbringing (see 6.1.2) into account at all times, as language acquisition and attrition do not take place in a vacuum.

[55] The results were obtained through statistical analyses. If such analyses are to be carried out, it is necessary for data to satisfy a number of assumptions (Field, 2005: 64). The criterion of normally distributed data was not always met in this study. In other words, the three groups differed significantly from each other with respect to their linguistic behavior. The best way to handle a violation of assumptions is to use non-parametric tests (Field, 2005: 521-570), but the nature of this study required multivariate testing for which there is no non-parametric, ready-to-use alternative. As a consequence, standard parametric tests were used, accompanied by non-parametric post-hoc tests (Games-Howell).

7.1 Overall language proficiency

7.1.1 Overall language proficiency: The C-test

7.1.1.1 The Dutch C-test

The C-test is generally considered to be a measure of overall language proficiency (Oscarson, 1991: 104, see 6.3.3). Table 7.1 presents the mean scores on the Dutch C-test and thus serves as an indication of general language proficiency for each of the three subject groups.

Table 7.1: Mean scores on the Dutch C-test (N=116)

	1:attriters (*n*=45)	**2: controls (*n*=39)**	**3: acquirers (*n*=32)**	**mean**
mean score (max = 100)	61.07	86.95	45.25	64.42
SD	18.39	8.65	17.14	14.73

An ANOVA test of variance revealed an effect of condition ($F_{(2, 113)} = 67.279$, $p < .001$, $\eta^2 = .54$). In other words, the three groups differed significantly from each other. The large effect size of .54 furthermore makes this finding a substantial one[56]. In addition, a Games-Howell posthoc procedure showed that the score of the subjects in the control group was significantly higher than that of both the Dutch Canadian subjects and the children ($p < .001$ in both cases). The attriters, in turn, outperformed the learners ($p < .005$). This result is also depicted in Fig. 7.1.

[56] An effect size of .10 is generally believed to constitute a small effect, an effect size of .30 is a medium effect, and .50 or more a large effect (Cohen, 1988, 1992).

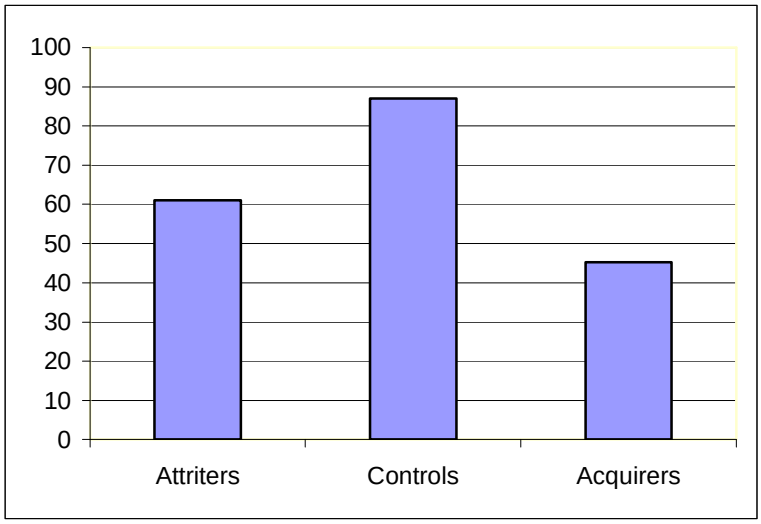

Fig. 7.1: The Results of the three groups on the Dutch C-test.

More detailed information about the subjects' performance is provided in Table 7.2, which separates the mean scores on each of the five C-texts.

Table 7.2: Mean scores per Dutch C-text (N = 120[57])

	1:attriters (n=45)	**2: controls (n=42)**	**3: acquirers (n=33)**	**mean**
text 1 (max=20)	13.60	18.91	14.09	15.53
SD	3.90	1.29	3.78	2.99
text 2 (max=20)	13.09	17.18	10.06	13.44
SD	4.03	2.21	4.62	3.62
text 3 (max=20)	13.04	17.23	9.21	13.16
SD	4.70	2.64	5.61	4.32
text 4 (max=20)	10.20	17.12	6.16	11.16

[57] There was an uneven distribution in relation to the number of subjects who completed each text of the C-test. The number that is given here indicates the mean number of participants across all five texts.

SD	4.32	2.62	3.86	3.60
text 5 (max=20)	11.13	16.46	5.22	10.94
SD	4.17	3.06	3.45	3.56

These scores generally reflect the sequential ordering of texts in the C-test, from easy to more difficult. A MANOVA test of variance was conducted on these data and showed a significant difference between the groups (Wilks' Lambda[58] = .243, $F_{(110, 218)} = 22.386$, $p < .001$, $\eta^2 = .51$). The large effect size is again indicative of a substantial finding. Following the MANOVA, separate ANOVA tests were run for each of the five C-texts, which showed all three groups to differ significantly from each other on each of the five texts under investigation ($p < .001$ in all instances). The Games Howell posthoc test, finally, revealed that the scores of the subjects in the control group were significantly higher than those of both the Dutch Canadian subjects and the learners with respect to texts 2 to 5 ($p < .001$ in all cases). In addition, the Dutch Canadians outperformed the children ($p < .05$ for text 2; $p < .01$ for text 3, and $p < .001$ for texts 4 and 5). No such tendency was found for the first text of the C-test, where the results of the Dutch Canadians and the children did not differ significantly from each other. The scores of these two conditions on text 1 were still found to lie markedly below those of the Dutch control subjects, however ($p < .001$).

7.1.1.1.1 Predictor variables in relation to the Dutch C-test

In order to see if these results could partly be explained on the basis of sociolinguistic variables, the factors of age, gender, educational level and region of birth and upbringing were included in the analyses. While age[59], gender and

[58] The test statistic of Wilks' Lambda is often used in MANOVA analyses where group sizes are unequal, as in the present study (Field, 2000: 594).

[59] For the age factor, the ages of the children were not taken into account. An inclusion of the youngest subjects would only result in another group comparison, but this time between children and adults in general, which was not the object of this study. In addition, the standard deviation of age in the learners was very small, as all children were between the ages of 13 and 16 (see 6.1.2.1). Instead, three age groups were created for the adult groups: 41-65; 66-70 and 71+. This division resulted in groups of roughly the same size and, in addition, could check whether the older subjects performed poorly in comparison to the other participants, because of their advanced age (see 6.1.2.1.)

region of birth and upbringing did not impact on the outcome of the Dutch C-test, educational level was found to influence the results ($F_{(4, 111)} = 14.945$, $p < .001$, $\eta^2 = .35$). Those subjects who were highly educated tended to produce higher scores than those with a lower educational background. This is illustrated in Table 7.3.

Table 7.3: The effect of education on the Dutch C-test [60] (N = 116)

	mean score (max=100)	**SD**
primary school (*n* = 3)	36.00	20.22
secondary school basic (*n* = 56)	53.96	22.40
secondary school plus(*n* = 27)	73.11	15.07
college (*n* = 15)	82.40	10.46
university (*n* = 15)	83.13	12.98
mean	65.72	16.23

Educational level did not influence the main effect of condition, which was still found after this predictor variable had been included in the analysis.

The influence of extralinguistic variables discussed so far pertained only to the outcome of the C-test as a whole, but a different pattern emerged when each of the five C-texts was examined separately; apart from the age factor, all predictor variables were suddenly found to impact on the results. To start with educational level, highly-educated subjects still produced higher scores on each of the five Dutch C-texts (Wilks' Lambda = .514, $F_{(20,355,829)} = 3.954$, $p < .001$, $\eta^2 = .15$). This small effect was found for all texts ($p < .001$) and is demonstrated in Table 7.4.

[60] An overview of the different educational types in the Netherlands can be found in 6.1.2.3.

Table 7.4: The effect of education on the five Dutch C-texts (N=116)

	primary school (*n*=3)	**secondary school Basic (*n*=56)**	**secondary school plus (*n*=27)**	**college (*n*=15)**	**university (*n*=15)**	**mean**
text1 (max=20)	8.67	14.20	16.52	18.33	17.47	15.04
SD	3.06	4.05	3.11	2.55	2.48	3.05
text 2 (max=20)	9.33	11.55	15.89	16.33	16.47	13.91
SD	4.16	4.77	2.85	2.72	2.59	3.42
text 3 (max=20)	6.33	10.55	15.67	17.20	17.67	13.48
SD	6.51	5.55	2.86	2.04	2.13	3.82
text 4 (max=20)	5.00	9.12	12.78	14.87	15.47	11.45
SD	2.65	5.53	5.21	3.66	4.76	4.36
text 5 (max=20)	6.67	8.54	12.26	15.67	16.07	11.84
SD	4.73	5.54	4.55	3.11	2.89	4.16

Region of birth and upbringing was also found to play a role, although the effect size was fairly small (Wilks' Lambda - .757, $F_{(15,298,542)} = 2.116$, $p < .01$, $\eta^2 = .09$). Subjects from the south of the Netherlands tended to outperform participants from other regions. The impact of region was only attested in the first two texts of the C-test, however ($p < .05$ in both cases, see Table 7.5).

Table 7.5: The effect of region of birth and upbringing on the five Dutch C-texts (N=116)

	north (*n* = 21)	**central (*n* = 75**	**south (*n* = 17)**	**mean**
text 1 (max=20)	14.86	15.59	16.24	15.59
SD	4.50	3.96	3.31	3.95
text 2 (max=20)	13.43	13.45	15.24	14.36
SD	5.32	4.70	2.44	3.64
text 3	13.48	12.55	16.65	14.75

(max=20)				
SD	4.45	5.85	1.71	4.16
text 4 (max=20)	10.95	10.57	15.06	13.06
SD	6.05	5.81	3.78	4.29
text 5 (max=20)	11.95	10.37	14.35	11.84
SD	4.64	6.17	3.26	4.28

Finally, an effect of gender was found. Female subjects produced significantly higher scores than male participants (Wilks' Lambda = .885, $F_{(5,110)}$ = 2.848, $p < .05$, $\eta^2 = .12$). As in region of birth and upbringing, this small effect was only found for the first two texts ($p < .005$ for text 1 ; $p < .05$ for text 2), and is shown in Table 7.6.

Table 7.6: The effect of gender on the five Dutch C-texts (N=116)

	male subjects (*n* = 57)	**female subjects (*n* = 59)**	**mean**
text 1 (max=20)	14.49	16.58	15.54
SD	4.15	3.47	3.81
text 2 (max=20)	12.81	14.68	13.75
SD	4.78	4.10	4.44
text 3 (max=20)	12.67	14.14	13.41
SD	5.93	4.76	5.35
text 4 (max=20)	10.98	11.86	11.42
SD	6.33	5.14	5.74
text 5 (max=20)	10.35	12.12	11.24
SD	5.53	5.67	5.60

7.1.1.2 The English C-test

In order to compare Dutch and English language proficiency and to assess the potential effects of L2 proficiency on the retention of L1 Dutch, the Dutch Canadian subjects were asked to complete an English C-test, the results of which are presented in Table 7.7.

Table 7.7: Mean scores on the English C-test (N = 45)

	mean score English C-test (max=100)	**SD**
1.attriters (*n*=45)	68.16	16.08

The outcome of the English and Dutch C-tests showed a strong, positive correlation ($r = .799$, $p < .001$). In other words, when subjects scored high on the Dutch C-test, they also tended to perform relatively well on the English C-test and vice versa. The Dutch and English C-test cannot truly be compared on a one-to-one basis, due to the fact that both contained very different texts. As a rough indication, however, the Dutch Canadian subjects showed significantly higher levels of English than Dutch proficiency: (t (44) = -4.271, $p < .001$, $\eta^2 = .29$), which constitutes a medium effect (see also Fig. 7.2).

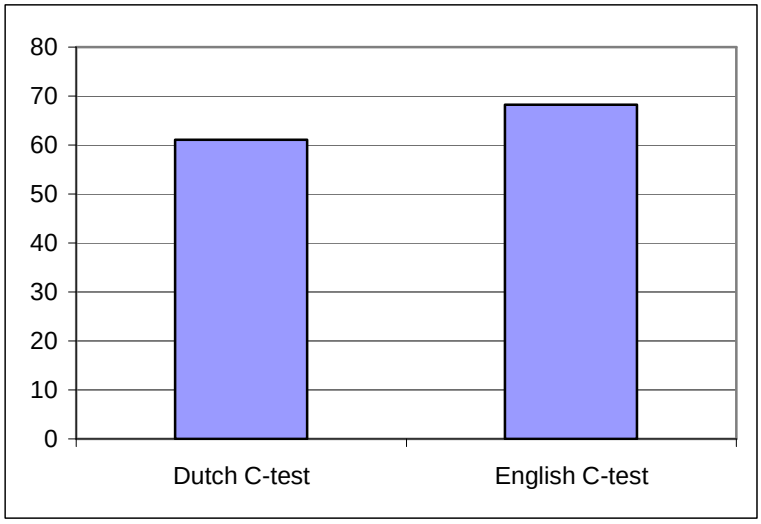

Fig. 7.2: The results of the Dutch Canadian group on the Dutch and English C-tests.

In Table 7.8, finally, the separate scores per text of the English version of the C-test are given.

Table 7.8: Mean scores on each of the five English C-texts (N = 45)

text 1	SD	text 2	SD	text 3	SD	text 4	SD	text 5	SD
16.22	2.82	14.18	4.33	8.67	4.32	14.09	3.54	15.00	3.30

As in its Dutch counterpart, the results largely reflected the sequential ordering of texts, from relatively easy to more difficult. Two notable exceptions were the third text, which subjects perceived as relatively difficult, and the final text, perceived as relatively easy, as reflected in the high score. In the case of the individual texts, it is even less instructive to compare the individual English C-texts with their Dutch counterparts and such an analysis was therefore not undertaken.

7.1.1.2.1 Predictor variables in relation to the English C-test

The factors of age, gender and region of birth did not influence the results. The level of education, on the other hand, did partly predict the outcome of the English C-test ($F_{(4, 40)} = 6.365$, $p < .001$, $\eta^2 = .64$). This large effect revealed that those subjects who had received a high education outperformed those with a lower educational background (see Table 7.9).

Table 7.9: The effect of education on the English C-test (N=45)

	mean score (max=100)	SD
primary school (*n* =3)	47.33	11.72
secondary school basic (*n* =20)	61.45	16.83
secondary school plus (*n* =8)	71.00	10.43
college (*n* =6)	80.00	6.99
university (*n* =8)	81.00	6.46
mean	68.16	10.49

A MANOVA test in which all of the five texts in the English C-test were investigated simultaneously again found that only education had any predictive

power (Wilks' Lambda = .377, $F_{(20,120,3480)} = 2.059$, $p < .01$, $\eta^2 = .22$). This medium effect was found for all texts, except the fourth one ($p < .005$ in the case of text 1, $p < .001$ in texts 2 and 3 and $p < .05$ for text 5). Table 7.10 illustrates this tendency in more detail.

Table 7.10: The effect of education on the five English C-texts (N=43)

	primary school (*n*=1)	**secondary school basic (*n*=20)**	**secondary school plus (*n*=8)**	**college (*n*=6)**	**university (*n*=8)**	**mean**
text 1 (max=20)	12.00	15.50	16.38	17.50	18.50	15.98
SD	3.61	2.61	2.67	1.87	1.31	2.41
text 2 (max=20)	7.67	12.55	15.37	17.67	16.88	14.03
SD	2.52	4.32	3.46	1.75	2.30	2.87
text 3 (max=20)	3.67	6.95	8.25	12.33	12.50	8.74
SD	2.08	4.08	3.50	1.51	3.07	2.85
text 4 (max=20)	12.00	12.85	14.63	16.00	16.00	14.27
SD	2.65	3.80	3.38	2.61	2.73	3.03
text 5 (max=20)	12.00	13.60	16.38	16.50	17.13	15.12
SD	1.73	4.11	0.52	1.16	0.84	1.672

The tendency observed for the English C-test as a whole can also be witnessed with respect to its individual texts: subjects with a high educational background tended to produce higher scores on each of the five English C-texts than participants who had not received much schooling.

7.1.2 Overall language proficiency: lexical diversity in the free spoken data

To compare the overall language proficiency that was assessed on the basis of the C-test with overall language proficiency in spontaneous speech, the transcripts produced on the basis of the film-retelling task were subjected to a

vocd analysis in CLAN (see 6.3.2.4). Table 7.11 presents the mean D scores that resulted from this analysis for all three groups of subjects.

Table 7.11: Mean D scores on the basis of the free spoken film narratives (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3: acquirers (*n*=35)**	**mean**
mean D score	50.34	59.28	38.37	49.33
SD	10.45	10.60	6.97	9.34

An ANOVA test of variance showed that this difference was significant ($F_{(2, 122)} = 46.065$, $p < .001$, $\eta^2 = .43$) and that the effect was large. The Games-Howell posthoc procedure furthermore revealed that this effect existed for the Dutch Canadian group versus the control subjects, as well as for the controls versus the learners ($p < .001$ in both instances). In addition, the mean D score for the acquirers was significantly lower than that of the attriters ($p < .001$). In other words, while the lexical diversity of the Dutch control subjects was significantly higher than that of the Dutch Canadians, the attriters still showed a higher level of lexical diversity than the children, who, as a group, produced the lowest D score (see Fig. 7.3).

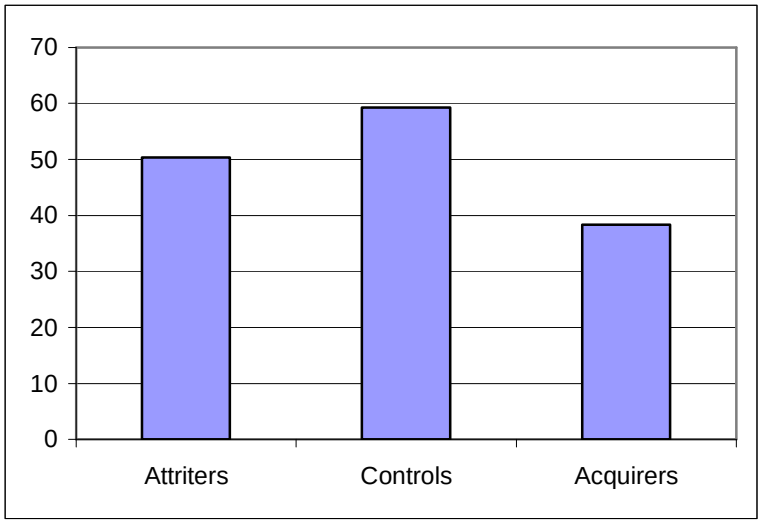

Fig. 7.3: The D scores for all three conditions on the basis of the film narrative

The result of the *vocd* analysis thus corresponded to the outcome of the controlled Dutch C-test, where the children displayed significantly lower levels of overall proficiency than the Dutch Canadians. The score of the Dutch Canadians, in turn, was significantly lower than that of the control subjects in the Netherlands.

7.1.2.1 Predictor variables in relation to lexical diversity in the free spoken data

The predictor variables of age and gender were not found to be significant in relation to the lexical diversity in the free spoken data. The other two variables, education and region of birth and upbringing were found to have an impact. First, there was a small effect of educational background ($F_{(4, 120)} = 2.753$, $p < .05$, $\eta^2 = .08$). The tendency was the same as attested in earlier analyses: the higher someone's educational background, the higher their D-score (see Table 7.12).

Table 7.12: The effect of education on the D scores (N = 125)

	mean D score	**SD**
primary school (*n* = 4)	43.80	6.23
secondary school basic (*n* = 60)	47.57	13.10
secondary school plus (*n* = 29)	50.58	12.53
college (*n* = 16)	57.83	10.03
university (*n* = 16)	53.42	12.04
mean	50.64	10.79

The factor region of birth and upbringing was also found to have an effect, albeit a small one ($F_{(3,121)} = 2.773$, $p < .05$, $\eta^2 = .06$). Generally, the subjects from the south of the Netherlands outperformed the subjects who

were born and raised in the central or northern part of the country. Table 7.13 specifies these results.

Table 7.13: The effect of region of birth and upbringing on the D scores (N=125)

	mean D score	**SD**
north (*n* = 23)	49.55	12.09
central (*n* = 81)	48.60	13.19
south (*n* = 17)	57.96	9.11
mean	52.04	11.46

None of these factors interfered with the main effect of condition, which remained significant throughout the analyses.

7.1.3 Overall language proficiency: deviations in the free spoken data

After the proficiency analyses, the narratives were examined for general deviations. These not only included non-standard attestations of the morphological and morpho-syntactic features under investigation, but also comprised deviant lexical choices and code-switches (see 6.3.2.4). For this purpose, the mean number of deviations per group was compared to the mean number of tokens produced by that same group, resulting in a percentage of non-standard forms in the free spoken data set. All this information is given in Table 7.14.

Table 7.14: Deviations in the free spoken data (N = 125)

	mean number of deviations	**SD**	**mean number of tokens**	**SD**	**percentage of deviations**
1:attriters (*n* = 45)	4.93	3.83	697.39	306.28	0.71%
2:controls (*n* = 45)	0.47	0.66	802.97	296.81	0.06%
3:acquirers (*n* = 35)	0.83	1.04	456.49	141.30	0.18%
mean	2.08	1.84	652.28	248.13	0.32%

The difference between the mean number of deviations produced per group was found to be significant ($F_{(2, 122)} = 46.611$, $p < .001$, $\eta^2 = .43$). Upon closer inspection, this effect was found for the Dutch Canadians versus the controls, as well as for the Dutch Canadians versus the learners ($p < .001$ in both cases). No significant difference was found between the adults in the Netherlands and the Dutch children. The higher number of non-standard forms in the attrition group is likely to have been caused by a relative high proportion of code-switches from English, which were all marked as deviations.

None of the predictor variables of age, gender, educational level and region of birth and upbringing was found to have any predictive power over the number of deviations produced.

7.1.4 Summary of overall language proficiency

Both the C-test and the lexical diversity measure of D in the free spoken data showed that the learners tended to have the lowest level of overall Dutch proficiency, followed by the attriters. The adult subjects in the Netherlands showed the highest level of Dutch proficiency. Although the Dutch and English C-tests are hard to compare on a one-to-one basis, it would appear that the English proficiency of the subjects in Canada was higher than their overall Dutch proficiency. No spontaneous data is available to support this finding, however, as no task elicited free speech in English. On the basis of these results, it can be concluded that language proficiency levels are highest in adult, non-attrited language users, but that immersion in a second or foreign language environment, although causing some erosion, does not lead to an overall loss of Dutch language skills. In fact, the attriters still outperformed the acquirers with respect to general language proficiency. Moreover, there were only a small number of deviations in the narratives of each of the three groups of participants.

7.2 Morphological proficiency

The analysis of the wug test as a measure of morphological proficiency (6.3.4) was separately conducted for noun phrase and for verb phrase morphology. Both parts were subjected to one-way analyses of variance (ANOVA), but the outcomes of the separate morphological features included in each part, such as plural inflection or simple past tense, were examined by means of multivariate

analyses of variance (MANOVA). The test statistic that was used was that of Wilks' Lambda. All significant MANOVAs were followed by separate one-way ANOVAs and Games-Howell posthoc procedures.

7.2.1 Noun phrase morphology: The wug test

Table 7.15 presents the results for the noun phrase part of the wug test.

Table 7.15: Mean scores on the noun phrase wug test (N = 122)

	1:attriters (*n*=45)	**2: controls (*n*=42)**	**3: acquirers (*n*=35)**	**mean**
mean score (max = 70)	50.18	62.86	53.23	55.42
SD	8.07	2.87	4.34	5.09

There was a large effect of condition ($F_{(2,119)} = 57.733$, $p < .001$, $\eta^2 = .49$), which was found to hold for the subjects in the Dutch Canadian group versus those in the control group as well as for the learners versus the adult controls ($p < .001$ in both cases). No significant difference was found in the performance of the Dutch Canadians on the one hand and the children on the other. This discrepancy between the acquirers and attriters on the one hand and the control subjects on the other is also illustrated in Fig. 7.4.

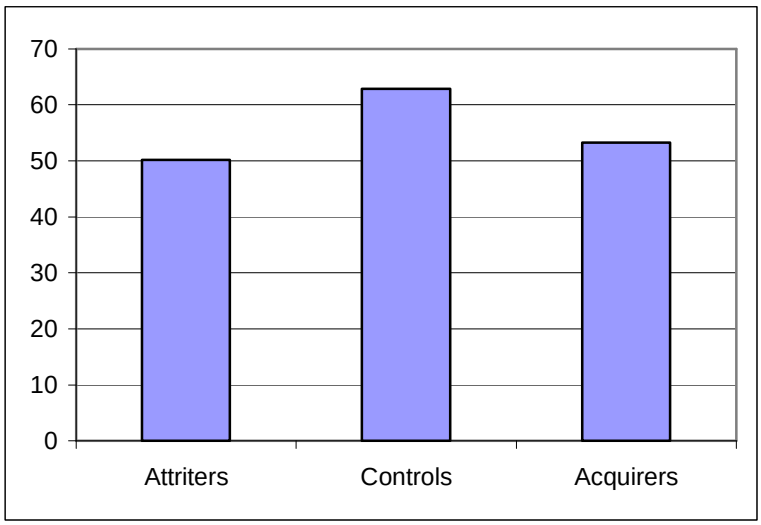

Fig. 7.4: The results of the three groups on the noun phrase wug test

7.2.1.1 Predictor variables in relation to the outcome of the noun phrase wug test

The outcome of the noun phrase part of the wug test was not found to be influenced by the factors age, gender and region of birth and upbringing, but educational level did have a small impact on the results ($F_{(4, 117)} = 4.581$, $p < .005$, $\eta^2 = .14$). In general, those subjects who had received a lower education were found to produce lower scores than the subjects with higher educational backgrounds (see Table 7.16).

Table 7.16: The effect of education on the noun phrase wug test (N = 122).

	mean score (max = 70)	**SD**
primary school (*n* = 4)	50.25	12.34
secondary school basic (*n* = 60)	52.98	8.65
secondary school plus (*n* = 29)	57.21	5.85

college (*n* = 15)	60.07	4.04
university (*n* = 14)	58.64	6.15
mean	55.83	7.41

Five phenomena were tested as part of the noun phrase wug test: plural inflection, agentive formation, article selection, adjectival inflection and diminutive formation, all of which are discussed below.

7.2.1.2 Plural inflection

7.2.1.2.1 Plural inflection in the wug test

A total of 14 items measured plural inflection, divided over the plurals allomorphs *–s* and *-en* and irregular plurals (see 3.1.1). All results are presented in Table 7.17.

Table 7.17: Mean scores on the plural inflection part of the wug test (N=124)

	1:attriters (*n*=45)	**2: controls (*n*=44)**	**3:acquirers (*n*=35)**	**mean**
-*s* plurals (max=4)	3.13	3.41	2.54	3.03
SD	0.63	0.54	0.61	0.59
***-en* plurals (max=5)**	3.64	4.23	3.77	3.88
SD	1.07	0.64	0.81	0.84
irregular plurals (max=5)	3.27	4.27	3.00	3.51
SD	0.99	0.69	1.00	0.89

The differences between the three conditions were found to be significant (Wilks' Lambda = .559, $F_{(6, 238)} = 13.338$, $p < .001$, $\eta^2 = .25$). This medium effect was found for each of the three plural allomorphs ($p < .001$ for the *–s* ending and irregular plurals, and $p < .01$ for pluralizations in *–en*). In the case of both *–en* plurals and irregular plural forms, the Dutch Canadians obtained

significantly lower scores than the controls ($p < .01$ and $p < .001$, respectively). In addition, the children's scores were lower than those of the control subjects ($p < .05$ for *–en* plurals; $p < .001$ for irregular plural forms). In forming *–s* plurals, the children produced significantly lower scores than both adult groups ($p < .001$ in both instances), but no significant difference was found between the subjects in Canada and the control group in the Netherlands. Thus, the performance of the acquirers and attriters was similar with respect to both *–en* and irregular plurals, but differed with regard to plurals that end in *–s*.

The Dutch Canadians were found to produce more *–s* overgeneralizations than the other two groups and thus produced forms like **glik-s* for the expected *glik(k)-en,* or **trag-s* rather than *trag(g)-en.* Across the board, however, by far most deviations involved an overgeneralization of *–en* where the context required *–s,* exemplified in **groffel-en.* On the basis of its phonotactic properties, this nonsense item was expected to pluralize in *groffel-s.* Regularization of irregular plural forms did not occur that often and typically only involved one verb: the plural of *schoonheid* ('beauty') was frequently realized as **schoonheid-en* rather than the standard *schoonhed-en.*

Occasionally, and seemingly triggered by the surface form of the word, zero inflection was found in the plural. For example, the nonsense word *keps* was typically left uninflected, presumably because the final *–s* was already perceived as the plural marker. Based on the properties of this stem, however, *keps-en* was expected.

7.2.1.2.2 Predictor variables in relation to plural inflection

The factors of age, gender and region of birth and upbringing were not found to impact on the production of plural inflection as part of the wug test, but educational level was found to partly predict the outcome. It was found that those subjects with a higher educational background tended to produce higher scores on the plural inflection part of the wug test (Wilks' Lambda = .728, $F_{(12,\ 309.844)} = 3.290$, $p < .001$, $\eta^2 = .10$). Education was found to have an impact on *–en* plurals ($p < .01$) and irregular plurals ($p < .001$), but not in relation to *–s* plural forms. The differences in educational level and the results on plural inflection are presented in Table 7.18.

Table 7.18: The effect of education on the plural inflection part of the wug test (N = 124)

	primary school (*n* = 4)	**secondary school basic (*n* = 60)**	**secondary school plus (*n* = 29)**	**college (*n* = 16)**	**university (*n* = 15)**	**mean**
-*s* plurals (max=4)	3.00	2.97	3.07	3.50	3.00	3.11
SD	0.00	0.69	0.70	0.52	0.76	0.53
-*en* plurals (max=5)	2.75	3.75	3.90	4.37	4.20	3.79
SD	2.06	0.86	0.82	0.62	0.68	1.01
irregular plurals (max=5)	3.25	3.13	3.86	4.13	4.07	3.69
SD	1.50	1.10	0.83	0.72	0.70	0.97

The predictive value of this sociolinguistic variable did nothing to change the main effect of condition.

7.2.1.2.3 Plural inflection in the free spoken data

Despite the deviations in the formal wug test, virtually no interferences were attested in plural inflection in the free spoken data that were produced as part of the film retelling task. Only one Dutch Canadian subject produced a deviant plural form: *kinder-s* for *kind-eren* ('children'). Even this, however, is more likely to be a dialectal variant (see 3.1.1) than a true 'mistake'.

7.2.1.3 Agentive formation

7.2.1.3.1 Agentive formation in the wug test

Another 14 items of the wug test tested agentive formation. These 14 items were divided into *–er, -aar* and feminine agentive markers (see 3.2.1), the results of which are given in Table 7.19.

Table 7.19: Mean scores on the agentive formation part of the wug test (N=123)

	1:attriters (*n*=45)	**2: controls (*n*=43)**	**3:acquirers (*n*=35)**	**mean**
***-er* agentives (max=4)**	2.24	3.11	2.77	2.71
SD	1.17	0.95	1.14	1.09
***-aar* agentives (max=4)**	2.47	3.57	2.94	2.99
SD	1.18	0.70	1.06	0.98
feminine agentives (max=6)	1.62	4.09	1.97	2.56
SD	1.63	1.21	1.47	1.44

A medium effect of condition was found (Wilks' Lambda = .555, $F_{(6, 236)}$ = 13.471, $p < .001$, $\eta^2 = .26$), for all three aspects of agentive formation ($p < .001$ for agentives in *–aar* and feminine agentives, and $p < .005$ for *–er* agentives). In the case of the *–er* agentive suffix, it was the Dutch Canadian group whose scores were significantly lower than those of the control subjects ($p < .005$). No difference was found between either the Dutch Canadians and the learners or the controls and the children, however. Agentive formation by means of *–aar,* as well as feminine agentive markers, showed a different tendency. In both these cases, the effect was significant for the Dutch Canadian subjects versus the controls ($p < .001$ in both cases) and for the control subjects versus the acquirers ($p < .05$ for *–aar; p* < .001 in the case of feminine agentives). The performance of the Dutch Canadians and the learners did not differ significantly from each other.

On the basis of these results, it appears to be especially the feminine marker that elicited deviations in the acquirers and attriters, while being relatively unproblematic for the non-attrited controls. Subjects typically produced the masculine form instead, but deviant feminine inflections were also found, such as **regel-ares* for *regel-aarster*. In addition, interferences were attested with respect to the two agentive suffixes *–er* and *–aar,* which typically involved a non-standard selection of the agentive marker. In the majority of cases, it was *–er* that was found to replace *–aar,* as in **frindel-er* for the standard

frindel-aar and **menker-er* rather than *menker-aar*. An example of a rare instance of *–aar* generalization is **smak(k)er-aar* for *smak(k)-er*.

7.2.1.3.2 Predictor variables in relation to agentive formation

None of the sociolinguistic variables of age, gender, educational level and region of birth and upbringing was found to exert any influence on agentive formation in the wug test

7.2.1.3.3 Agentive formation in the free spoken data

Agentive forms were relatively scarce in the narratives of all three participant groups. Rather than saying things like *zwerfster* ('female wanderer'), subjects tended to paraphrase this as *het meisje dat zwierf* ('the girl who wandered'), which might be indicative of avoidance strategies. In fact, the attriters produced significantly fewer agentives than the control subjects ($p < .05$), and the narratives of the children also contained less agentive forms than those of the controls ($p < .005$). By contrast, there was no significant difference in the mean number of times the acquirers and attriters used agentives in their film retellings: $F_{(2, 122)} = 6.126$, $p < .005$, $\eta^2 = .09$ (see also Table 7.20).

Table 7.20: Mean number of agentive occurrences in the free spoken data (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3: aquirers (*n*-35)**	**mean**
mean number of agentives	1.87	3.04	1.54	2.15
SD	2.30	2.01	1.79	2.03

Very few occurrences of deviant agentive use were attested in the film narratives of the adult groups and none were found in the free spoken data of the children. Only two deviations presented themselves in the speech of the attriters, both of which are likely to be slips of the tongue, as the two occurrences concern the replacement of agentive forms by full nouns (see (1a) and (1b)).

1a) *hij is daar als een *scheepswerf* (Dutch Canadian Group - FLS[61])
he be-3SG there as a shipyard
'he is there as a shipyard'

1b) *dan komt de *bakkerij* (Dutch-Canadian Group - DAS)
then come-3SG the bakery
'then comes the bakery'

In the control group, one subject produced *dad-eres* ('feminine perpetrator'). While not ungrammatical in Dutch, this is generally perceived as a highly marked form. The masculine counterpart, *dad-er,* is more frequently used to denote both men and women.

7.2.1.4 Article selection

7.2.1.4.1 Article selection in the wug test

A total of 14 wug test items elicited article selection[62]: 7 items elicited the definite article *de,* which is used to modify common gender nouns and 7 other items elicited *het,* employed for neuter nouns (see 3.3.1). Table 7.21 lists the results.

Table 7.21: Mean scores on the article selection part of the wug test (N=124)

	1:attriters (*n*=45)	**2: controls (*n*=44)**	**3:acquirers (*n*=35)**	**mean**
***de* (max=7)**	5.78	6.44	5.86	6.03
SD	1.31	0.76	1.09	1.05
***het* (max=7)**	6.13	6.21	5.94	6.09
SD	1.06	0.71	0.87	0.88

[61] Each subject in this study is referred to by a three-letter code to ensure the anonymity of the people who participated in this project.

[62] It needs to be indicated how the lexical items on the wug test for which subjects had to select a definite article were all nonsense words. Although it might be challenging to provide a determiner in these cases, subjects could select the article on the basis of phonotactic cues and on the basis of analogies with existing items. This task did prove to discriminate between the three groups of subjects.

These results proved to be significant (Wilks' Lambda = .913, $F_{(4, 238)} = 2.766$, $p < .05$, $\eta^2 = .04$), but the effect was only found for *de* ($p < .01$), and not for *het*. Moreover, given the small effect size, the finding was not very substantial. The Dutch Canadian subjects had significantly more problems with the definite, common gender article than the adult control subjects ($p < .05$). In addition, the learners produced more deviations with respect to *de* than the adults in the Netherlands ($p < 05$), but no significant difference was found between the attriters and acquirers.

Where deviations from the expected article were attested, it necessarily involved the selection of the other, non-expected article. It was mostly *de* that was replaced by *het,* rather than the other way around, as can be seen in Table 7.21. An example of this can be found in **het hoofd-en,* which is a plural form and should therefore select *de: de hoofd-en*.

7.2.1.4.2 Predictor variables in relation to article selection

None of the predictor variables included in this study, age, gender, educational level or region of birth and upbringing, was found to interact with the outcome of article selection.

7.2.1.4.3 Article selection in the free spoken data

By far most noun phrase morphology-related deviations that were found in the free spoken data involved gender problems, reflected in a deviant choice of determiner. Since the focus here is on articles, the other determiner-related deviations were not taken into account. Table 7.22 indicates the mean number of times the incorrect article was selected in the free spoken data.

Table 7.22: Mean number of article selection deviations in the free spoken data (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
de* for *het	0.53	0.13	0.03	0.23
het* for *de	0.13	0.11	0.00	0.08

Although the average number of deviations was small, there was a significant difference between the three groups: $F_{(2, 122)} = 9.445$, $p < .001$, $\eta^2 = .13$. Despite this small effect size, the attriters were found to produce more deviations than

the control subjects ($p < .005$), and more than the acquirers ($p < .05$). The discrepancy in deviations found in the narratives of the controls and learners did not prove to be significant.

Furthermore, there was an interaction between the number of interferences which subjects in Canada produced and their educational level: most deviations were found in those subjects with a primary school background. The other three predictor variables could not explain any of the results.

By way of example, (2a) to (2f) present a selection of deviations that were found, with the correct article indicated between brackets.

2a) **het (de) plaats* (Dutch Canadian Group - BEG)
'the place'

2b) **de (het) hoekje* (Dutch Canadian Group - COK)
'the corner'

2c) **het (de) maaltijd* (Dutch Canadian Group - LWV)
'the meal'

2d) **de (het) fruit* (Control Group – ROS)
'the fruit'

2e) **het (de) bestelauto* (Control Group – SPS)
'the delivery van'

2f) **de (het) raam* (Child Group – TOL)
'the window'

No items on the wug test elicited the indefinite article *een,* but the free spoken data did reveal deviations with respect to this article, mostly involving omissions, as in (3a) and (3b). In addition, two children used *een* to modify non-count nouns, as in **een werk* ('a work').

3a) *hij moest *Ø [een] speciaal blokje vinden*
(Dutch Canadian Group – KUN)
he must-SG.PST special block-DIM find-INF
'he had to find a special block'

3b) *het was *Ø [een] andere politieagent* (Child Group – SAM)
it be-SG.PST different police officer
'it was a different police officer'

7.2.1.5 Adjectival inflection

7.2.1.5.1 Adjectival inflection in the wug test

The wug test contained a total of 14 items that elicited adjectival inflection. All adjectival forms were either degree forms (comparative and superlative forms), whose endings belong to the category of inherent inflection, or pronominal forms with contextual inflection (see 3.4.1). Table 7.23 gives the results for both these phenomena.

Table 7.23: Mean scores on the adjectival inflection part of the wug test (N=124)

	1:attriters (*n*=45)	**2: controls (*n*=44)**	**3:acquirers (*n*=35)**	**mean**
inherent inflection (max=4)	3.40	4.00	3.97	3.79
SD	0.92	0.00	0.17	0.36
contextual inflection (max=10)	7.20	9.91	8.91	8.67
SD	2.15	0.29	0.92	1.12

The differences between the groups were found to be significant, with a medium effect (Wilks' Lambda = .557, $F_{(4,240)} = 20.419$, $p < .001$, $\eta^2 = .25$). All three groups differed significantly on both inherent and contextual adjectival inflection ($p < .001$ in both cases). With respect to inherent inflection, only the Dutch Canadian subject performed relatively poorly in comparison to the controls and acquirers ($p < .001$ in both cases). The adults and children in the Netherlands, by contrast, did not differ from one another.

A different pattern emerged in relation to contextual inflection. While the Dutch Canadians still produced a significantly lower score than the control subjects and the children ($p < .001$ in both instances), the children were now also found to perform lower than the adults in the Netherlands ($p < .001$).

Contextual inflection deviations were most prevalent in the output of the acquirers and attriters. Especially difficult were exceptional forms as *de maatschappelijk-Ø werker* ('the social worker'), which is an example of a type III exception (see 3.4.1.2). Subjects frequently added an inflectional *–e: de *maatschappelijk-e werker.*

7.2.1.5.2 Predictor variables in relation to adjectival inflection

Age, gender and region of birth and upbringing did not influence the results in any way. Only educational level was found to have some predictive power in relation to the scores on adjectival inflection (Wilks' Lambda = .872, $F_{(8, 236)} = 2.093$, $p < .05$, $\eta^2 = .07$), although this effect too was very small. Furthermore, education was only found to have an impact on the outcome of inherent inflection ($p < .05$), but was not a predictor in relation to contextual adjectival inflection. This is illustrated in Table 7.24.

Table 7.24: The effect of education on the adjectival inflection part of the wug test (N = 124)

	inherent inflection (max=4)	**SD**	**contextual inflection (max=10)**	**SD**
primary school (*n* = 4)	4.00	0.00	7.25	2.22
secondary basic (*n* = 60)	3.60	0.81	8.28	2.02
secondary plus (*n* = 29	3.90	0.41	9.14	1.41
college (*n* = 16)	4.00	0.00	9.00	1.55
university (*n* = 15	3.93	0.26	9.13	1.41
mean	3.89	0.30	8.56	1.72

7.2.1.5.3 Adjectival inflection in the free spoken data

The narratives did not contain any deviations with respect to inherent adjectival inflection, but contextual inflection mistakes were present in the free spoken

data sets, most notably in the speech of the attriters. Here, too, however, the absolute numbers are very small, making the mean number of mistakes per subject even more marginal (see Table 7.25). Below Table 7.25, some examples of deviations are given.

Table 7.25: Mean number of contextual adjectival inflection deviations in the free spoken data (N=125)

	1:attriters (n=45)	**2: controls (n=45)**	**3:acquirers (n=35)**	**mean**
incorrect contextual inflection	0.18	0.09	0.06	0.11

4a) *een *grot-e (groot-Ø) steunblok* (Dutch Canadian Group - FLS)
'a large girder'

4b) *een *ander-e (ander-Ø) meisje* (Dutch Canadian Group - LWM)
'a different girl'

4c) *een *hel-e (heel-Ø)) grot-e (groot-Ø) blad* (Control Group - BOK),
'a very large tray'

What was also attested in the attriters and acquirers, but not in the speech of the controls, were sporadic inappropriate zero inflection forms, exemplified in (5a) to (5d).

5a) *een *ander-Ø (ander-e) dame* (Dutch Canadian Group - TIV)
'a different lady'

5b) *die *ander-Ø (ander-e) vrouw* (Dutch Canadian Group – KUN)
'that other woman'

5c) *een*ander-Ø (ander-e) man* (Dutch Canadian Group – HAY)
'a different man'

5d) *een *uitgebreid-Ø (uitgebreid-e) maaltijd* (Child Group – JOJ)
'an elaborate meal'

7.2.1.6 Diminutive formation

7.2.1.6.1 Diminutive formation in the wug test

The 14 items of the wug test that tested diminutive formation were categorized on the basis of the five diminutive allomorphs illustrated in (3.5.1), the results of which are given in Table 7.26.

Table 7.26: Mean scores on the diminutive formation part of the wug test (N=124)

	1:attriters (*n*=45)	**2: controls (*n*=44)**	**3:acquirers (*n*=35)**	**mean**
***-tje* (max=4)**	2.62	3.98	2.46	3.02
SD	0.58	0.15	0.66	0.46
***-je* (max=2)**	1.67	1.93	1.97	1.86
SD	0.60	0.25	0.17	0.34
***-etje* (max=5)**	3.89	4.86	4.11	4.32
SD	1.05	0.35	1.13	0.84
***-pje* (max=2)**	1.49	1.93	1.23	1.55
SD	0.70	0.26	0.81	0.59
***-kje* (max=2)**	1.64	1.98	1.80	1.81
SD	0.57	0.15	0.41	0.38

The difference between the three conditions was significant (Wilks' Lambda = .546, $F_{(10,234)} = 8.279$, $p < .001$, $\eta^2 = .26$), for all five diminutive allomorphs ($p <$ .001 in all cases, except for diminutive allomorphs *–je* and *–kje,* where $p < .005$). This constituted a medium effect. For all allomorphs, the Dutch Canadians produced more deviant forms than the control subjects ($p < .005$ in all cases, except for *–je,* where $p < .05$). In addition, the children produced less standard forms than the subjects in the control group ($p < .001$ for *–tje* and *–pje;* $p < .005$ for *–etje;* $p < .05$ for *–kje*), but the performance of the attriters and acquirers did not differ significantly. One notable exception is *–je,* where the children outperformed the Dutch Canadians ($p < .01$). In fact, the children achieved the highest score of all groups on diminutives that end in *–je* and did not differ significantly from the controls with respect to this feature either. Still, the Dutch Canadians' score fell below that of the controls and the children.

Thus, all subjects, especially those in the Dutch Canadian and child groups, revealed deviations with respect to diminutive inflection, which mostly involved the selection of a deviant diminutive suffix, almost invariably the default *–tje*. For example, they might produce forms like **cyclaam-tje* for the standard *cyclaam-pje* ('small cyclamen').

7.2.1.6.2 Predictor variables in relation to diminutive formation

None of the predictor variables had an effect on diminutive formation.

7.2.1.6.3 Diminutive formation in the free spoken data

Diminutives were not very frequent in the free speech of the three groups of subjects, but did occur consistently (see Table 7.27*)*. There was a significant difference in the number of times the three conditions employed diminutive forms in their narratives: $F_{(2,\ 122)} = 11.811$, $p < .001$, $\eta^2 = .19$). In particular, the attriters used less diminutives than the controls ($p < .001$), and so did the children ($p < .005$). The attriters and acquirers, on the other hand, did not differ markedly from one another.

Table 7.27: Mean number of diminutive occurrences in the free spoken data (N=125)

	1:attriters (*n*=45)	**2:controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
mean number diminutives	3.20	6.22	3.17	4.20
SD	2.77	4.20	2.75	3.24

Diminutive formation does not appear to be a problem in free speech, as only 3 deviant diminutive forms were attested. One of these was found in the narratives of the Dutch Canadian group and two were found in the speech of the controls. All deviations are presented in (6a) to (6c), with the intended forms between brackets.

6a) *en hij gaf nog allerlei snoep of iets aan twee kleine *jonk-jes (jongetjes)*
(Dutch Canadian Group – TIV)
and he give-SG.PST still all kinds candy or something to two small boys
'and in the meantime he gave all kinds of candy or something to two small boys'

6b) *de agent met zijn kale *kop(p)-etje* (kopje[63])
(Control Group – IEL)
the officer with his bold little head-DIM
'the officer with his bold little head'

6c) *in een *plantsoen-etje (plantsoentje) voor een mooi huis-je*
(Control Group - HAD)
in a small park-DIM in front of a nice small house-DIM
'in a small park in front of a nice little house'

7.2.2 Verb phrase morphology: The wug test

Apart from tapping into noun phrase morphology, the wug test also contained 50 items that tested verb phrase morphology. Table 7.28 presents the mean score for all three groups on the verb phrase part of the wug test.

Table 7.28: Mean scores on the verb phrase wug test (N = 125)

	1:attriters (*n*=45)	**2:controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
mean score (max = 50)	40.47	47.76	43.63	43.95
SD	6.12	1.91	2.67	3.57

An effect of condition was found, ($F_{(2,122)} = 35.750$, $p < .001$, $\eta^2 = .37$), which is a medium effect and proved to be significant for the Dutch Canadian group versus the controls as well as for the learner group versus the controls ($p < .001$

[63] Although officially not a diminutive suffix, *-ie* is often attached to *kop* to form the diminutive form *kop(p)ie*. According to the phonological principles outlined in (3.5.1), however, *kop-je* is the expected form.

in both instances). In addition, the acquirers were found to outperform the attriters ($p < .01$), see also *Fig.7.5*.

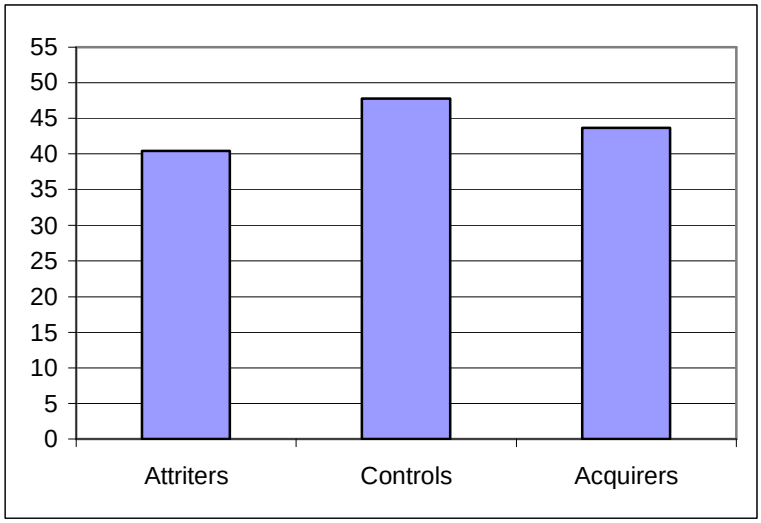

Fig. 7.5: The results of the three groups on the verb phrase wug test

7.2.2.1 Predictor variables in relation to the outcome of the verb phrase wug test

Age, gender and region of birth and upbringing were not found to influence the outcome of the verb phrase part of the wug test. Education did have an effect, but only a small one: $F_{(4, 120)} = 5.663$, $p < .001$, $\eta^2 = .16$. Generally, a higher educational background led to higher scores on the verb phrase part of the wug test, reflected in Table 7.29.

Table 7.29: The effect of education on the verb phrase wug test (N = 125).

	mean score (max = 50)	**SD**
primary school (*n* = 4)	37.75	8.54
secondary school basic (*n* = 60)	42.75	5.44
secondary school plus (*n* = 29)	44.28	4.47
college (*n* = 16)	47.50	2.37
university (*n* = 16)	46.06	2.93
mean	43.67	4.75

The verb phrase part of the wug test consisted of items that measured proficiency in relation to five different morphological features: simple present tense, simple past tense, past participles, auxiliary selection and future tense, all of which are discussed below.

7.2.2.2 Simple present tense

7.2.2.2.1 Simple present tense in the wug test

A total of 10 items in the wug test measured simple present tense inflection. Of these items, 3 elicited *–t* inflection found in the second and third person singular: 4 more items examined the plural *–en* inflection and the final 3 items measured irregular simple present tense. This latter category comprised two modal verbs and one case where the *–t* suffix was dropped due to inversion of pronoun and verb (see 4.1.1). The results of all these three simple present aspects are presented in Table 7.30.

Table 7.30: Mean scores on the simple present tense part of the wug test (N=125)

	1:attriters (*n*=45)	**2:controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
***-t* present singular (max=3)**	2.09	2.78	2.51	2.46
SD	0.95	0.47	0.74	0.72
***-en* present plural (max=4)**	3.24	4.00	3.98	2.87
SD	1.03	0.00	0.17	0.40
irregular present (max=3)	2.62	2.98	3.00	2.87
SD	0.54	0.15	0.00	0.23

The difference between the three conditions was significant (Wilks' Lambda = .650, $F_{(6,240)} = 9.600$, $p < .001$, $\eta^2 = .19$), and was found for all of the three present tense aspects under investigation ($p < .001$ in all cases). In this small to medium effect, the Dutch Canadians performed poorly on all three aspects; they scored lower than the control subjects ($p < .001$ in all three cases) and, in the case of irregular present tense forms, they also produced lower scores than the children ($p < .001$). In no case did the controls and the learners differ significantly from each other.

Deviations in simple present tense inflection rarely occurred. Instead, what was often attested were forms like *mok-t* ('sulks') as the third person singular form of the nonsense stem *moek*. In other words, the *–t* ending was attached, but subjects tried to relate the nonce word to an existing verb. In addition, the plural present tense *nassen (/naz̥ə(n)/)* was frequently realized as *naasen (/na:z̥ə(n)/),* which does have the plural present tense ending *–en,* but at the same time deviates in its stem. Thirdly, unexpected modal auxiliaries were attested. Where standard Dutch prefers forms like *jij kan* ('you can'), attestations of *jij *kun-t* also occurred. It should be noted that the later form does regularly appear in colloquial Dutch, but it remains interesting that it is not used as much by the subjects in the control group. Finally, subjects occasionally

provided the *-t* suffix in a construction like *mend-t jij*[64]*,* which does not receive a *t* ending due to the fact that the personal pronoun *jij* ('you') follows the verb rather than precedes it (see 4.1.1).

7.2.2.2.2 Predictor variables in relation to simple present tense

None of the sociolinguistic variables of age, gender, education and region of birth and upbringing was not found to have predictive power in relation to simple present tense inflection.

7.2.2.2.3 Simple present tense in the free spoken data

First, there was virtually no difference in the number of times the simple present was used in the narratives of all three groups of participants. In addition, no simple present tense deviations were attested in the spontaneous speech of the control subjects and only one deviant use of present tense morphology was found in the narratives of the learner group. By contrast, the attriters in Canada produced 5 non-standard simple present tense forms, which still constitute a very small number of interferences. All deviations can be roughly divided into two categories: overgeneralization of *–t* in the singular and zero inflection. In the first category we find deviations such as (7a) and (7b), where the standard form is given between brackets.

7a) *hij *wil-t (wil-Ø) de schuld op zich nemen*
(Dutch Canadian Group – HEL)
he want-3SG the blame on himself take-INF
'he wants to take the blame upon himself'

7b) *en *wil-t (wil-Ø) zij ontsnappen* (Child Group – SAB)
and want-3SG she escape-INF
'and she wants to escape'

Both attestations involve modals, which are special in the sense that they lack second and third person singular morphology (see 4.1.1). (8a) and (8b) present

[64] Due to final devoicing in Dutch, the phonological forms *mend* and *mendt* are identical. The reason this was counted as a mistake is that the wug test was a written task and it is in the written domain that the difference between these two forms surfaces.

examples where subjects have omitted simple present inflections in contexts where standard Dutch does not allow this.

8a) *en dat meisje *zeg-Ø (zeg-t)* (Dutch Canadian Group – HEL)
and that girl say-1SG
'and that girl says'

8b) *dat je er *ben-Ø (ben-t)* (Dutch Canadian Group – HDM)
that you there be-1SG
'that you are there'

7.2.2.3 Simple past tense

7.2.2.3.1 Simple past tense in the wug test

The 10 items of the wug test that measured simple past tense were divided into weak and strong past tense (see 3.2.1), the results of which are given in Table 7.31.

Table 7.31: Mean scores on the simple past tense part of the wug test (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
weak past (max=5)	3.67	4.33	3.86	3.95
SD	1.17	0.83	0.97	0.99
strong past (max=5)	3.24	4.20	3.40	3.61
SD	1.07	0.76	0.88	0.90

The difference between the three groups was significant (Wilks' Lambda = .797, $F_{(4,242)}$ = 7.285, p < .001, η^2 = .11). Although this effect was small, subsequent ANOVAs revealed that the groups differed with respect to both weak (p < .01) and strong past tense marking (p < .001). While the Dutch Canadians produced lower scores than the control subjects on weak past tense marking (p < .01) and strong past tense forms (p < .001), the children were only found to perform significantly below the controls with respect to strong past

tense inflection ($p < .001$). No significant difference was found between the attriters and acquirers on either of these two aspects.

The deviations produced in weak past tense forms mainly involved the selection of the wrong past tense suffix, where *–de(n)* was replaced by *–te(n)* and vice versa, as in **vruk-de* for *vruk-te*. The two past tense markers were substituted freely without one being generalized at the expense of the other. In addition, certain weak past tense forms were treated as strong verbs, resulting in **vrak* or **vrok* for *vruk-te* or **rondelen* instead of the expected *randel-den*.

Where unexpected forms were attested in relation to strong verbs, they usually involved an incorrect vowel alternation. An example is **rewagen,* which, on the basis of the existing word from which it derives (*wegen* – 'to weigh'), should form its past tense in *rewogen*. This phenomenon is also illustrated by **nolpen* for *nielpen*. In other words, subjects were usually aware of the fact that the nonce verbs in question belonged to the strong declension, but were uncertain about the exact vowel alternation. Other deviations that were found involved the addition of a weak past suffix to a strong verb, exemplified in **help-ten* instead of *hielpen*.

7.2.2.3.2 Predictor variables in relation to simple past tense

Only the variable education had an impact on the results, although the effect size remained small: Wilks' Lambda = .810, $F_{(8,238)} = 3.315$, $p < .005$, $\eta^2 = .10$. In addition, the effect only existed for strong past tense forms ($p < .001$), and was not found in relation to the weak declension. Table 7.32 lists these tendencies.

Table 7.32: The effect of education on the simple past tense part of the wug test (N = 125)

	weak past (max=5)	**SD**	**strong past (max=5)**	**SD**
primary school (*n* = 4)	3.25	1.26	2.50	1.73
secondary school basic (*n* = 60)	3.82	1.16	3.33	0.91
secondary school plus	3.90	0.98	3.79	0.90

(*n* = 29)				
college (*n* = 16)	4.38	0.72	4.31	0.87
university *n* = 16)	4.38	0.62	4.06	0.85
mean	3.95	0.95	3.60	1.05

As can be seen in the table, the more highly educated subjects tended to outperform those who had completed a lower level of education.

7.2.2.3.3 Simple past tense in the free spoken data

First, the narratives produced by the attriters and acquirers contained a higher overall percentage of simple past tense forms than the free spoken data of the controls (see Table 7.33*)*. These differences reached a significance level: $F_{(2, 122)} = 5.933$, $p = .005$, $\eta^2 = .09$. The Dutch Canadians and the learners produced significantly more simple past forms than the controls ($p < .01$ for the attriters versus the controls; $p < .05$ for the acquirers versus the controls).

Table 7.33: Mean number of simple past tense occurrences in the free spoken data (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
mean number simple past tenses	39.71	20.09	37.94	32.58
SD	32.82	28.45	25.91	29.06

Second, whereas the subjects in the adult control group did not produce any simple past tense deviations in their free spoken narratives, several non-standard forms were found in the data of both the attriters and acquirers, as illustrated in Table 7.34.

Table 7.34: Mean number of simple past tense deviations in the free spoken data (N=125)

	mean number of deviations	**SD**
1:attriters (*n* = 45)	0.31	0.79
2: controls (*n* = 45)	0.00	0.00
3:acquirers (*n* = 35)	0.17	0.45
mean	0.16	0.41

There was a small effect of condition ($F_{(2, 122)} = 3.849$, $p < .05$, $\eta^2 = .06$), which obtained for the Dutch Canadians versus their counterparts in the Netherlands ($p < .05$). No significant difference was found between either the acquirers and attriters or the learners and the controls. Furthermore, the only sociolinguistic variable that had any impact on the number of past tense deviations that were produced, especially by the attriters, was education. It was especially the participants who had only completed primary school who produced most deviant past tense forms. All deviations occurred in strong past tense forms, which were treated as weak by the majority of subjects, exemplified in (9a) to (9c). In all cases, the standard strong form is included between brackets.

9a) *die *help-te (hielp) hem eruit* (Dutch Canadian Group – LWM)
that one help-SG.PST him out
'that one helped him out'

9b) *die *jaag-de (joeg) hun weg* (Dutch Canadian Group – KUN)
that one chase-SG.PST them away
'that one chased them away'

9c) *dat schip *vaar-de (voer) weg* (Child Group – ERS)
that ship sail-SG.PST off
'that ship sailed off'

In addition, deviant vowel alternations were attested in strong forms, especially in the spontaneous speech of the attriters:

10a) *het schip *droof (dreef) het water in*
(Dutch Canadian Group – HEL)
the ship float-SG.PST the water in
'the ship floated in the water'

10b) *hij *stook (stak) er zelf een aan* (Dutch Canadian Group – WIN)
he light-SG.PST there himself one on
'he lit one himself'

Finally, there were a number of cases where subjects did produce the standard strong form of a verb, but at the same time added the weak past tense suffix, as in (11). This was especially attested in the data of the learners.

11) *die *voer-de (voer) zo de zee in* (Child Group – KIH)
that one sail-SG.PST.STRONG/WEAK right the sea in
'that one sailed right into sea'

7.2.2.4 Past participles

7.2.2.4.1 Past participles in the wug test

As in the simple past, the past participles that were tested as part of the wug test were divided into strong and weak forms (see 4.3.1). Table 7.35 shows the results of all three conditions.

Table 7.35: Mean scores on the past participle part of the wug test (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
weak past participles (max=4)	3.36	3.91	3.31	3.53
SD	0.68	0.29	0.87	0.61
strong past participles (max=6)	4.42	5.69	3.80	4.64
SD	1.16	0.63	1.18	0.99

The discrepancies between the three groups were significant (Wilks' Lambda = .596, $F_{(4,242)} = 17.860$, $p < .001$, $\eta^2 = .23$). This medium effect existed for both weak and strong past participle formation ($p < .001$ in both cases). The Dutch Canadians produced more deviant forms than the control subjects with regard to both these aspects ($p < .001$ in both cases). In addition, the children were found to produce lower scores than the adults in the Netherlands ($p < .005$ for weak past tense inflection and $p < .001$ for strong past tense forms). In no case, however, did the subjects in Canada and the learners differ from each other.

The majority of deviations involved an incorrect suffix, predominantly an overgeneralization of *–d*: **ge-das-d* for *ge-das-t, *ge-pap-d* for *ge-pap-t,* but also **ge-meel-t* instead of *ge-meel-d.*[65] Where deviant forms were found in relation to strong past participles, these invariably constituted a replacement of strong forms by weak ones. Examples can be found in **mezoek-t* for *mezocht, *rebreng-d* for *rebracht* or **mespring-t* for *mesprongen.* In addition, there were a number of prefix-related deviations, notably in the children's data. In these cases, an additional *ge-* was typically added despite the presence of *me-* and *re-,* which already serve as a prefix (see 4.3.1): **ge-me-zoek-t, *ge-re-breng-d* or **ge-me-spring-d.*

7.2.2.4.2 Predictor variables in relation to past participles

Two sociolinguistic factors were found to have an impact on the results of the past participle section of the wug test: gender and education. Female subjects were found to produce more standard past participle forms than the male participants (Wilks' Lambda = .938, $F_{(2,122)} = 4.062$, $p < .05$, $\eta^2 = .06$). This small effect was only attested for strong past participle forms ($p < .01$) (see Table 7.36).

[65] Since these pairs do not differ from each other in their phonemic realization, they may not be considered as deviations from the standard. However, the wug test was a written task where subjects were presented with the written form of the nonsense words and asked to inflect it. The endings of the words do matter in their written form and these instances were therefore treated as deviations.

Table 7.36: The effect of gender on the past participle part of the wug test (N = 125)

	male subjects (*n* = 62)	**female subjects (*n* = 63)**
weak past participles (max=4)	3.45	3.63
SD	0.78	0.58
strong past participles (max=6)	4.39	5.02
SD	1.30	1.17

Education, too, was found to predict part of the outcome of past participle formation (Wilks' Lambda = .812, $F_{(8,273)} = 3.273$, $p < .005$, $\eta^2 = .10$), although the effect size of education was also small and only existed for strong participle forms ($p < .001$). In addition, the subjects with a higher educational background generally performed better than less educated participants. Table 7.37 summarizes these results.

Table 7.37: The effect of education on the past participle part of the wug test (N = 125)

	weak past Participles (max=4)	**SD**	**strong participles (max=6)**	**SD**
primary school (*n* = 4)	3.00	0.82	4.00	1.63
secondary school basic (*n* = 60)	3.43	0.79	4.30	1.34
secondary school plus (*n* = 29)	3.66	0.61	4.72	1.07
college (*n* = 16)	3.75	0.45	5.69	0.60
university *n* = 16)	3.69	0.48	5.38	0.96
mean	3.51	0.63	4.82	1.12

7.2.2.4.3 Past participles in the free spoken data

The mean number of times periphrastic constructions were used per subject lay below the mean number of times participants used the simple past tense (see 7.2.2.3.3). Although this tendency was found for all groups, it was especially true for the attriters and acquirers (see Table 7.38), but these discrepancies were not significant: $F_{(2, 120)} = .368$, $p = .693$.

Table 7.38: Mean number of past participle occurrences (in periphrastic constructions) in the free spoken data (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
mean past participle occurrences	3.16	2.00	3.42	2.86
SD	10.71	1.78	9.13	7.21

Relatively few deviations were attested in the free spoken data with respect to past participles. The subjects in Canada produced 4 deviant forms, their counterparts in the Netherlands showed 1 deviant form and the narratives of the children contained 2 deviations. Examples of such deviations are given in (12a) to (12c), all of which constitute weak replacements of strong past participles.

12a) *dat hij het brood *ge-stel-en (ge-stol-en) heeft*
(Dutch Canadian Group – TNV)
that he the loaf steal-PTCP have-3SG
'that he has stolen the loaf'

12b) *dat hij *ge-melk-t (ge-molk-en) wordt*
(Dutch Canadian Group – BIS)
that he milk-PTCP become-3SG
'that he is milked'

12c) *het was *weg-ge-vaar-d (weg-ge-var-en)* (Child Group – SHB)
it be-3SG.PST sail off-PTCP
'it had sailed off'

7.2.2.5 Auxiliary selection

7.2.2.5.1 Auxiliary selection in the wug test

Auxiliary selection in periphrastic constructions presents a binary choice between *zijn* ('to be') and *hebben* ('to have') (see 4.4.1). The 10 items of the wug test that measured auxiliary selection were therefore divided into *zijn* and *hebben* constructions, the results of which are presented in Table 7.39.

Table 7.39: Mean scores on the auxiliary selection part of the wug test (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
***zijn* (max=5)**	4.47	4.98	4.86	4.77
SD	0.94	0.15	0.49	0.53
***hebben* (max=5)**	4.42	5.00	4.97	4.80
SD	0.89	0.00	0.17	0.35

The difference between the three groups was found to be significant (Wilks' Lambda = .729, $F_{(4,242)} = 10.360$, $p < .001$, $\eta^2 = .15$). This small effect was attested for both *zijn* ($p < .005$) and *hebben* ($p < .001$), but there was also a difference between the two. The Dutch Canadians performed poorly compared to the controls with respect to *zijn* constructions ($p < .005$) but, in the selection of *hebben,* they did not only produce lower scores than the control subjects ($p < .001$), but also than the learners ($p < .005$). At no point was there a significant difference between the scores of the acquirers and the adult subjects in the Netherlands.

Constructions like *we *hebben begonnen* ('we have started'), which is *we zijn begonnen* in standard Dutch, thus occurred alongside *we *zijn gerend* ('we have run'), which is realized as *we hebben gerend* in standard Dutch (see 4.4.1).

7.2.2.5.2 Predictor variables in relation to auxiliary selection

None of the factors of age, gender, educational level and region of birth and upbringing had any predictive power with regard to the auxiliary selection performance.

7.2.2.5.3 Auxiliary selection in the free spoken data

Only two cases of non-standard auxiliary use were found in the free spoken data, both in the narratives of the Dutch Canadians, and neither involved auxiliaries in periphrastic constructions. They are given in (13a) and (13b), accompanied by their standard form between brackets.

13a) *hun[66] *hebben (zijn) kwaad* (Dutch Canadian Group – LWV)
they have-PL angry
'they are angry'

13b) *die man *heeft (is) nog een sigaar aan het roken*
(Dutch Canadian Group – DAS)
that man have-3SG still a cigar on the smoke-INF
'that man is still smoking a cigar'

7.2.2.6 Future tense

7.2.2.6.1 Future tense in the wug test

A total of 10 items measured future tense proficiency. Table 7.40 presents the mean number of times the future was formed by means of *zullen* and by means of *gaan*. In addition, the expression of futurity by means of both *zullen* and *gaan*, which is also grammatical in Dutch (see 4.5.1), was occasionally attested. Finally, incorrect future tense forms were found as well. The latter category comprised modals such as *willen* ('to want') to indicate the future, as in (14). While *willen* does imply a wish for the future it is not used to form the future tense in Dutch.

14) *jullie *willen bappen*
you-PL want-PL 'bappen'[67]
'you want to 'bap"

Table 7.40: Mean number of occurrences of the future tense part of the wug test (N = 125).

	1:attriters (n=45)	**2: controls (n=45)**	**3:acquirers (n=35)**	**mean**
zullen (max=10)	3.16	5.98	2.31	3.82
SD	2.67	4.74	4.19	3.87
gaan (max=10)	5.73	3.53	7.06	5.44
SD	2.99	4.73	4.50	4.07
zullen gaan (max=10)	0.40	0.38	0.57	0.45
SD	0.30	1.78	2.36	1.48
deviations (max=10)	1.07	0.11	0.60	0.59
SD	1.88	0.38	0.34	0.87

The difference between the three groups was significant (Wilks' Lambda = .730, $F_{(6,240)} = 6.803$, $p < .001$, $\eta^2 = .15$). The small effect of condition was attested for future tense by means of zullen ($p < .001$), gaan ($p < .005$), and incorrect future forms ($p < .001$). The control group subjects produced more *zullen* instances than both the attriters and acquirers ($p < .005$ in both cases). The latter two groups, in turn, more often indicated futurity by means of *gaan* than the controls ($p < .05$ in relation to the attriters; $p < .005$ in relation to the learners). Only the Dutch Canadians produced significantly more deviant future tense forms than both the adults and acquirers in the Netherlands ($p < .005$ in both cases). The children did not produce significantly more deviations than the controls.

[66] The use of *hun* ('them') here is deviant as well, since this constitutes an object form, but is used as the subject of the clause. Because of this, the appropriate form to use would have been *zij* ('they').

7.2.2.6.2 Predictor variables in relation to future tense

Only education was found to have an impact on the formation of future tense. Education was found to have an impact on the results in the sense that more highly educated subjects tended to produce more *zullen* than *gaan* forms (Wilks' Lambda = .803, $F_{(12,312,490)} = 2.251$, $p < .05$, $\eta^2 = .07$), as shown in Table 7.41.

Table 7.41: The effect of education on the future tense part of the wug test (N = 125)

	primary school (*n* = 4)	**secondary school basic (*n* = 60)**	**secondary school plus (*n* = 29)**	**college (*n* = 16)**	**university (*n* = 16)**
***zullen* (max=10)**	5.00	2.72	3.66	5.75	6.94
SD	4.69	3.77	4.35	4.25	3.70
***gaan* (max=10)**	4.50	6.77	4.83	3.56	2.69
SD	4.20	4.05	4.43	4.01	3.72
***zullen gaan* (max=10)**	0.00	0.03	0.97	0.56	0.00
SD	0.00	0.26	2.91	2.25	0.00
deviations (max=10)	0.50	0.48	0.55	0.13	0.37
SD	1.00	1.36	1.57	0.50	0.62

7.2.2.6.3 Future tense in the free spoken data

In line with the findings of the wug test, *zullen* was used more by the control condition to indicate futurity. Importantly, the controls also used more *gaan* constructions than *zullen* futures (see Table 7.42*),* although none of these differences was significant. Furthermore, no future tense-related deviations were found in the film narratives of any of the three groups of subjects.

[67] As *bappen* is a nonsense verb, it cannot be translated.

Table 7.42: Mean number of future tense occurrences in the free spoken data (N = 125).

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
zullen	0.12	0.70	0.00	0.27
SD	0.39	0.26	0.00	0.22
gaan	0.74	1.35	0.94	1.01
SD	1.12	1.49	1.58	1.40
zullen gaan	0.07	0.20	0.00	0.09
SD	0.26	0.15	0.00	0.14

7.2.3 Summary of morphological proficiency

For both noun phrase and verb phrase morphology, all aspects under investigation showed significant differences between the three groups of subjects. The parallels and divergences that could be observed between the three conditions did not remain constant for all features under investigation, but there was one pattern that emerged most frequently: the scores of the acquirers and attriters were typically lower than the score obtained by the controls in the Netherlands. At the same time, the performance of the acquirers and attriters was similar: the discrepancies between the two groups often did not reach significance. In order to have an overview of all these results, the grids below schematically present the findings for noun phrase and verb phrase morphology.

		attriters vs controls	**ariters vs aquirers**	**controls vs. aquirers**
noun phrase wug test as a whole		***	n.s.	***
plural inflection wug test	***-en***	**	n.s.	*
	-s	n.s.	***	***
	irregular	***	n.s.	***
plural inflection free spoken data		n.s.	n.s.	n.s.
agentive formation wug test	***-er***	**	n.s.	n.s.
	-aar	***	n.s.	*

	feminine	***	n.s.	***
agentive formation free spoken data[68]		n.s.	n.s.	n.s.
article selection wug test	**de**	*	n.s.	*
	het	n.s.	n.s.	n.s.
article selection free spoken data		**	*	n.s.
adjectival inflection wug test	**inherent**	***	***	n.s.
	contextual	***	***	***
adjectival inflection free spoken data		n.s.	n.s.	n.s.
diminutive formation wug test	**-tje**	**	n.s.	***
	-je	*	**	n.s.
	-etje	**	n.s.	**
	-pke	**	n.s.	***
	-kje	**	n.s.	*
diminutive formation free spoken data		n.s.	n.s.	n.s.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; n.s. = not significant

		attriters vs. controls	**attriters vs acquirers**	**controls vs. acquirers**
verb phrase wug test as a whole		***	n.s.	***
simple present tense wug test	***-t***	***	n.s.	n.s.
	-en	***	n.s.	n.s.
	irregular	***	***	n.s.
simple present tense free spoken data		n.s.	n.s.	n.s.
simple past tense wug test	**weak**	**	n.s.	n.s.
	strong	***	n.s.	***
simple past tense		*	n.s.	n.s.

[68] As with all the entries in this grid, the outcomes of free spoken data represent the deviations and not the number of occurrences. In other words, the attriters and acquirers produced significantly less agentive forms than the controls, but the three groups did not differ from each other with respect to number of deviations found in the narratives.

free spoken data				
past participles wug test	**weak**	***	n.s.	**
	strong	***	n.s.	***
past participles free spoken data		n.s.	n.s.	n.s.
auxiliary selection wug test	***zijn***	**	n.s.	n.s.
	hebben	***	**	n.s.
auxiliary selection free spoken data		n.s.	n.s.	n.s.
future tense wug test	***zullen***	**	n.s.	**
	gaan	*	n.s.	**
future tense free spoken data		n.s.	n.s.	n.s.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; n.s. = not significant

7.3 Morpho-syntactic proficiency

The five syntactic aspects under investigation, negation, passive constructions, verb second (V2), subordination and discontinuous word order, were tested by means of a grammaticality judgment task. The difference between the three groups on the test as a whole was examined by means of a one-way analysis of variance (ANOVA), whereas the outcomes of all of the five separate syntactic aspects were subjected to a MANOVA multivariate analysis of variance. As in the wug test, the test statistic that was used was Wilks' Lambda. All significant MANOVAs were in turn followed by separate one-way analyses of variance (ANOVAs) and Games-Howell posthoc tests.

7.3.1 Morpho-syntactic proficiency: The grammaticality judgment task

The mean scores on the grammaticality judgment task are given in Table 7.47. The fillers that were part of the original task (see 6.3.5.3) were not included in the analyses.

Table 7.47: Mean scores on the grammaticality judgment task (N=121)

	1:attriters (*n*=43)	**2: controls (*n*=43)**	**3:acquirers (*n*=35)**	**mean**
mean score (max = 26)	17.98	20.42	17.14	18.51
SD	3.44	2.60	2.91	2.98

The difference between the groups was significant ($F_{(2,118)} = 12.864$, $p < .001$, $\eta^2 = .18$). This small effect was found for the Dutch Canadians versus the Dutch controls and also for the learners versus the controls ($p < .001$ in both cases). The acquirers and attriters did not differ significantly from each other (see Fig. 7.6).

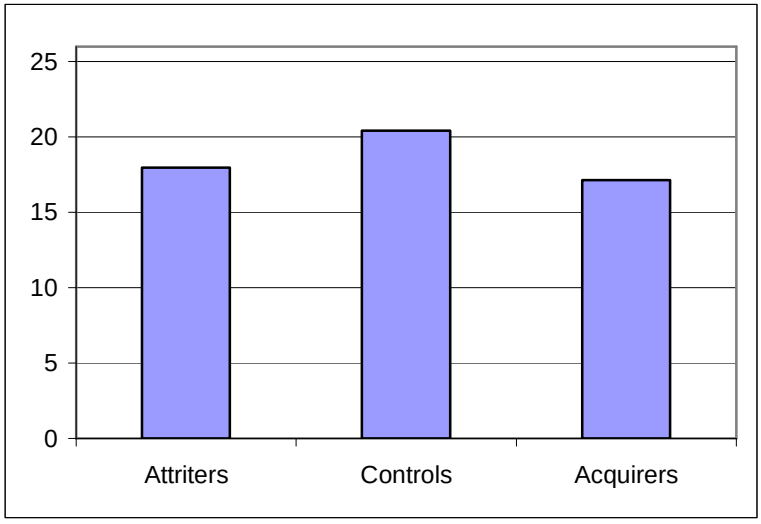

Fig. 7.6: The results of the three groups on the grammaticality judgment task

Apart from the options 'correct' and 'incorrect', subject could also indicate that they did not know (see 6.3.5.3). The number of times the acquirers and attriters selected the option 'don't know' was also similar, as reflected in Table 7.48.

Table 7.48: Mean number of times 'don't know' was selected on the grammaticality judgment task (N=121)

	1:attriters (*n*=43)	**2: controls (*n*=43)**	**3:acquirers (*n*=35)**	**mean**
mean number (max = 26)	1.02	0.36	1.60	0.99
SD	1.44	0.61	1.72	1.26

This effect was significant, but small ($F_{(2, 122)} = 9.081$, $p < .001$, $\eta^2 = .13$) and existed for the Dutch Canadians versus the controls ($p < .05$), and the children versus the controls ($p < .005$).

7.3.1.1 Predictor variables in relation to the outcome of the grammaticality judgment task

Educational level was the sole factor that had any predictive power over the results of the grammaticality judgment task: $F_{(4,116)} = 4.969$ $p < .005$, $\eta^2 = .15$. Highly educated subjects consistently produced higher overall scores on the judgments than their less educated counterparts (see Table 7.49).

7.49: The effect of education on the grammaticality judgment task (N = 121).

	mean score (max = 26)	**SD**
primary school (*n* = 4)	14.75	5.68
secondary school basic (*n* = 58)	17.90	3.34
secondary school plus (*n* = 28)	18.61	2.25
college (*n* = 15)	20.40	3.04
university (*n* = 16)	20.44	2.73
mean	18.42	3.41

7.3.1.2 Negation

7.3.1.2.1 Negation in the grammaticality judgment task

A total of 8 items tested negation on the grammaticality judgment task, 4 of which involved the negator *niet* ('not') and the other 4 tested the use of the negator *geen* ('no') (see 5.1.1). Table 7.50 shows the results for both these aspects.

Table 7.50: Mean scores on the negation part of the grammaticality judgment task (N=121)

	1:attriters (*n*=43)	**2: controls (*n*=43)**	**3:acquirers (*n*=35)**	**mean**
***niet* (max=4)**	2.86	3.40	2.94	3.07
SD	0.89	0.54	0.84	0.76
***geen* (max=4)**	1.93	2.77	1.83	2.18
SD	0.59	0.84	0.66	0.70

The difference between the three groups was significant (Wilks' Lambda = .709, $F_{(4,234)} = 10.969$, $p < .001$, $\eta^2 = .16$), for both negation by means of *niet* ($p < .005$) and *geen* ($p < .001$), although the effect can be classified as small. In both cases, the control subjects outperformed the attriters ($p < .005$ for *niet;* $p < .001$ for *geen*) as well as acquirers ($p < .05$ for *niet;* $p < .001$ in the case of *geen*). The learners and subjects in Canada were not found to differ significantly from each other on either *niet* or *geen* negation.

Thus, where subjects went wrong in the judgments of negation, they typically misjudged the placement of NEG, illustrated in (15a).

15a) **de Nederlanders hadden niet uiteraard hun auto's versierd*
the Dutch have-PL.PST not-NEG of course their cars decorate-PTCP
'the Dutch had not, of course, decorated their cars'

The position of the negator vis-à-vis the adverb in (15a) does not conform to the standard. Instead, NEG is more commonly placed after the adverb, as in (15b).

15b) *de Nederlanders hadden uiteraard niet hun auto's versierd*
the Dutch have-PL.PST of course not-NEG their cars decorate-PTCP
' the Dutch had not, of course, decorated their cars'

The three groups displayed a distinct preference with respect to the negator *geen*. For example, structures like (16) are not ungrammatical in Dutch, but are perceived as marked. Indeed, many subjects in the control condition preferred to merge *niet* ('not') and *een* ('a'), resulting in *geen* ('no'), but this was not regularly attested in the data of the acquirers and attriters.

16) *zodat zij niet een partij hoefde te kiezen*
so that she not-NEG a side have to-SG.PST to choose-INF
'so that she did not have to pick a side'

7.3.1.2.2 Predictor variables in relation to negation

The only predictor variable that was found to have an impact on the judgment of those items that tested negation was education: Wilks' Lambda = .780, $F_{(8,230)}$ = 3.799, $p < .001$, $\eta^2 = .12$. This small effect existed for both negation by means of *niet* ($p < .005$) and *geen* ($p < .05$). In conformity with the tendency that was found for the morphological features under investigation, it was the highly educated subjects who produced higher scores compared to the participants with lower educational backgrounds, as reflected in Table 7.51.

Table 7.51: The effect of education on the negation part of the grammaticality judgment task (N = 121).

	niet **(max=4)**	**SD**	***geen*** **(max=4)**	***SD***
primary school (*n* = 4)	2.00	0.82	2.25	1.26
secondary school basic (*n* = 58)	2.91	0.88	2.16	0.70
secondary school plus	3.25	0.52	1.86	0.85

(*n* = 28)				
college (*n* = 15)	3.33	0.62	2.67	0.90
university (*n* = 16)	3.38	0.72	2.50	0.82
mean	2.97	0.71	2.29	0.91

7.3.1.2.3 Negation in the free spoken data

There was no significant difference between the number of times the three groups of subjects employed negation in their narratives. In addition, almost no negation-related deviations were found in the free spoken data. The only 4 deviant uses that were found were produced by subjects in Canada, two of which are reproduced in (17a) and (17b).

17a) **de krantenman niet wijst hem aan* (Dutch Canadian Group – GRN)
the newspaper man not-NEG point-3SG him out
'the newspaper man does not point to him'

17b) **hij kon er niet geeneen vinden* (Dutch Canadian Group – TNM)
he can-SG.PST there not-NEG no-NEG find-INF
'he could not find one'

(17a) presents a word order problem, as the negator *niet* occurs pre-verbally. The form *geeneen* in (17b), on the other hand, is an example of double negation where the standard, unmarked construction is given in (18a). It needs to be pointed out, however, that double negation is quite common in colloquial Dutch, especially in spoken discourse, exemplified in (18b).

18a) *hij kon er niet een vinden*
he can-SG.PST there not-NEG one find-INF
'he could not find one'

18b) *ik heb hem nooit geen cent geleend*
I have-1SG him never-NEG a cent lend-PTCP
'I have never lent him a cent'

7.3.1.3 Passive constructions

7.3.1.3.1 Passive constructions in the grammaticality judgment task

All transitive verbs in Dutch can be passivized, but restrictions apply to the passivization of intransitive verbs (see 5.2.1). Because of this, the items in the grammaticality judgment task required subjects to judge the grammaticality of both transitive and intransitive passive verbs, the results of which are illustrated in Table 7.52.

Table 7.52: Mean scores on the passive constructions part of the grammaticality judgment task (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3: acquirers (*n*=35)**	**mean**
transitive (max=2)	1.02	1.18	0.91	1.04
SD	0.45	0.61	0.28	0.45
intransitive (max=2)	1.16	1.56	0.94	1.22
SD	0.67	0.59	0.48	0.58

These differences were significant (Wilks' Lambda = .833, $F_{(4,242)} = 5.772$, $p < .001$, $\eta^2 = .09$). The effect was fairly small, however, and the difference between the three conditions only held for intransitive passives ($p < .001$). The Dutch Canadian subjects scored significantly lower than the control subjects ($p < .05$). In addition, the controls also outperformed the learners ($p < .001$), but no significant difference was found between the attriters and acquirers.

What was most frequently attested were instances where the subjects in the Dutch Canadian group and in the child group accepted constructions, such as (19):

19) **critici hadden al gezegd dat er veel gegroeid was door het Turkse elftal*
critics have-PL.PST already say-PTCP that there much grow-PTCP be-SG.PST by the Turkish team
'critics had already said that the Turkish team had improved greatly'

The Dutch *groeien* ('to grow') is an intransitive verb. Only intransitives that are telic (have a natural endpoint) and are clearly controlled by an agent can be passivized (see 5.2.1). It is especially the agentivity criterion that does not apply in the case of 'grow', and this renders a passive counterpart ungrammatical. It should be noted that all passive constructions of the judgment task were so-called long passives (using *door* – 'by'-phrases).

7.3.1.3.2 Predictor variables in relation to passive constructions

None of the sociolinguistic variables under investigation was found to have an impact on the results of passive constructions. In other words, age, gender, educational level and region of birth and origin were not found to influence passive formation.

7.3.1.3.3 Passive constructions in the free spoken data

There was a significant difference in the mean number of times the subjects in all three groups used passives in their narratives ($F_{(2, 122)} = 12.264$, $p < .001$, $\eta^2 = .17$): the attriters used them less than the controls ($p < .005$). In addition, the children's free spoken data contained fewer passives than those of the control subjects ($p < .001$). There was no significant different between the acquirers and attriters. These tendencies are displayed in Table 7.53.

Table 7.53: Mean number of passive occurrences in the free spoken data (N=125)

	1:attriters (*n*=45)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**
mean number of passives	3.62	6.02	2.80
SD	3.03	3.74	2.01

No significant differences were found in the number of deviations each group produced in their free speech. Only 2 deviations were found with respect to passive constructions (see 20a and 20b), one produced by an attriter and one by an acquirer.

20a) **en dan paar keer werd dat gebeurd*
(Dutch Canadian Group – KUN)
and then few times become-SG.PST that happen-PTCP
' and then that happened a few times'

20b) *[*zij*][69] *ziet heel veel gebak of eten naar binnen brengen*
(Child Group – NAF)
[she] see-3SG very much pastry or food to inside take-INF
'[she] sees many pastries or food being carried inside'

Dutch *gebeuren* ('to happen') is an atelic, intransitive verb that cannot be controlled by an agent. As a consequence, it cannot be passivized the way it is in (20a). In (20b), it would appear that the message the sentence conveys is very much a passive one, while the lexical verb is still in the active voice. The standard way to formulate the latter intention is by means of the construction in (21).

21) *zij ziet heel veel gebak of eten naar binnen gebracht worden*
see-3SG very much pastry or food to inside take take-PTCP become-INF
'she sees many pastries or food being carried inside'

7.3.1.4 Verb second (V2)

7.3.1.4.1 V2 in the grammaticality judgment task

In order to test V2, two different constructions were included in the grammaticality judgment task: the more conventional V2 structures where the sentence-initial element is a subject and the less common wh-question, where the verb and subject switch positions (see 5.3.1). Examples of each constructions are given in (22a) and (22b), respectively, and the results of both can be found in Table 7.54.

[69] The subject is omitted in this context, which is frequently done in everyday spoken interaction, but is inserted here for convenience sake.

22a) *ik heb dat shirt gekocht*
I have-1SG that shirt buy-PTCP
'I have bought that shirt'
22b) *waarom heb ik dat shirt gekocht?*
why have-1SG I that shirt buy-PTCP?
'why have I bought that shirt?'

Table 7.54: Mean scores on the V2 part of the grammaticality judgment task (N=125)

	1:attriters (n=45)	**2: controls (n=45)**	**3:acquirers (n=35)**	**mean**
subject-initial V2 (max=2)	1.76	1.69	1.69	1.71
SD	0.44	0.47	0.58	0.50
wh interrogative V2 (max=2)	1.47	1.69	1.43	1.53
SD	0.63	0.51	0.56	0.57

The difference between the three groups was not found to be significant (Wilks' Lambda = .947, $F_{(4,242)} = 1.669$, p =.158).

7.3.1.4.2 Predictor variables in relation to V2

As no significant result was reached for V2, the impact of the four predictor variables has not been taken into account.

7.3.1.4.3 V2 in the free spoken data[70]

In contrast to the controlled grammaticality judgments, many V2-related deviations were attested in the spontaneous data of all subjects, especially those in Canada (see Table 7.55 for the mean scores). This difference constituted a medium effect of condition ($F_{(2, 122)} = 28.322$, $p < .001$, $\eta^2 = .32$), for the Dutch Canadians versus the controls and for the Dutch Canadians versus the learners

[70] As it is impossible to automatically count the number of V2, subordination and discontinuous word order occurrences in the free spoken data by means of CLAN (see 6.3.2.4), no such information is presented here.

($p < .001$ in both instances). None of the predictor variables was found to have an impact on this result. In other words, no parallels were found between the acquirers and attriters on V2 use in the free spoken data.

Table 7.55: Mean number of V2 deviations in the free spoken data (N=125)

	mean number of deviations	**SD**
1:attriters (*n* = 45)	2.20	2.56
2: controls (*n* = 45)	0.04	0.21
3:acquirers (*n* = 35)	0.03	0.17
mean	0.76	0.98

Lexical verbs in particular often occurred in positions other than V2, typically following time adjuncts like *dan* ('then'). See (23a) to (23f) for examples (where the standard form is given between brackets).

23a) **en dan Charlie Chaplin staat op (en dan staat Charlie Chaplin op)*
(Dutch Canadian Group – IDA)
'and then Charlie Chaplin stands up'

23b) **and then[71] de fantasie was over (en toen[72] was de fantasie over)*
(Dutch Canadian Group – COK)
'and then the fantasy was over'

23c) **dan zij kookt een maaltijd (dan kookt zij een maaltijd)*
(Dutch Canadian Group – WIT)
'then she cooks a meal'

23d) **dan zij ziet er heel mooi uit (dan ziet zij er heel mooi uit)*
(Control Group – BRK)
'then she looks very beautiful'

[71] *And then* is an example of code-switching, which was frequently attested in the speech of the Dutch Canadians (see 7.1.3).

[72] When using a time adjunct in conjunction with a past tense reference, *toen* ('then') is preferred over *dan* ('then') in standard Dutch.

23e) **en dan die stool zo'n (en toen stal die zo'n)*
(Child Group – GUM)
'and then that one stole one of those'

23f) **en toen hij schopte tegen een krukje aan (en toen schopte hij tegen een krukje aan)*
(Child Group – TOM)
'and then he kicked against a stool'

7.3.1.5 Subordination

7.3.1.5.1 Subordination in the grammaticality judgment task

The grammaticality judgment task contained 4 items that measured subordination. These items were divided into temporal/causal subordinate clauses on the one hand and subordinate clauses introduced by *dat* on the other, since the former are believed to be easier than the latter (see 5.4.1). The results are given in Table 7.56.

Table 7.56: Mean scores on the subordination part of the grammaticality judgment task (N=124)

	1:attriters (*n*=44)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
temporal/causal (max=2)	1.27	1.29	1.23	1.26
SD	0.62	0.51	0.43	0.52
***dat* subordination (max=2)**	1.55	1.87	1.63	1.68
SD	0.59	0.34	0.65	0.53

The differences between the three groups were not found to be significant (Wilks' Lambda = .931, $F_{(4,240)} = 2.179$, $p = .072$).

7.3.1.5.2 Predictor variables in relation to subordination

Given the lack of significant results, no predictor analysis was carried out.

7.3.1.5.3 Subordination in the free spoken data

As opposed to the more controlled grammaticality judgment task, many deviations in the use of subordinations were found in the film narratives. Table 7.57 presents the mean number of deviations per group.

Table 7.57: Mean number of subordination deviations in the free spoken data (N=125)

	mean number of deviations	**SD**
1:attriters (*n* = 45)	0.84	1.15
2: controls (*n* = 45)	0.02	0.15
3:acquirers (*n* = 35)	0.09	0.28
mean	0.32	0.53

This difference was found to be significant ($F_{(2, 122)} = 18.069$, $p < .001$, $\eta^2 = .23$), constituting a medium effect. On the one hand, the difference between the subjects in Canada and their counterparts in the Netherlands was found to be significant. On the other, the Dutch Canadians were also found to produce more deviant forms than the learners ($p < .001$ in both cases). This outcome was not in any way affected by the sociolinguistic variables of age, gender, education and region of birth and upbringing.

Most deviations involved a non-standard word order in subordinate clauses, as in (24a) to (24c), where the standard word order is provided between brackets.

24a) **toen zei die man dat hij had geen geld (dat hij geen geld had)*
(Dutch Canadian Group – COK)
'then said that man that he had no money'

24b) **omdat de kioskeigenaar ziet niet de politie (omdat de kioskeigenaar de politie niet ziet)* (Control Group – TAA)
because the kiosk owner see-3SG not the police
'because the kiosk owner does not see the police'

24c) **want het een leuk meisje was (want het was een leuk meisje)*
(Child Group – PAB)
because it a nice girl be-3SG.PST
'because it was a nice girl'

The problem in the first two sentences is that the verb should be in final position. In other words, the main clause word order is used in a subclause. By contrast, as *want* in (24c) is essentially a coordinator rather than subordinator (Spooren, Sanders, Huiskes & Degand, forthc.), the verb in (24c) should be in second position. Another attestation of deviant subordination concerns the choice of subordinator, as illustrated in (25a) and (25b). The standard subordinator is included between brackets.

25a) *het zal wel mooi wezen*[73] **dat (als) wij daarin wonen*
(Dutch Canadian Group – LWV)
it will quite nice be-INF that we therein live-INF
'it would be nice if we lived there'

25b) *ze dromen erop los, *omdat (totdat) ze wakker worden*
(Dutch Canadian Group – HAY)
they dream on, because they awake become-INF
'they dream heartily, until they wake up'

Finally, the subordinator was occasionally omitted and left to be inferred from the context. This kind of deviation only occurred in the Dutch Canadian group (see (26a) and (26b)).

26a) *toen dacht hij *Ø hij moest maar teruggaan*
(Dutch Canadian Group – VMV)
then think-SG.PST he must-SG.PSY better return-INF
'then he thought he had better go back'

[73] *Wezen* is an infinite form, which occasionally serves as a replacement for the more frequent *zijn.* For a more elaborate account of the constraints regarding the use of *wezen,* see Rooij (1986).

26b) *een baas vertelde hem *Ø hij moest een stuk hout opzoeken*
(Dutch Canadian Group – WAV)
a boss tell-SG.PST him he must-SG.PST a piece wood find-INF
'a boss told him he had to find a piece of wood'

The correct structures to use in (26a) and (26b) would have been *toen dacht hij dat hij maar eens moest teruggaan* and *een baas vertelde hem dat hij een stuk hout moest opzoeken,* respectively. It should be noted how most subordination deviations in the free spoken data thus involved the subordinator *dat* rather than other constructions involving temporal, conditional or causative subordinate clauses (see 5.4.1).

7.3.1.6 Discontinuous word order

7.3.1.6.1 Discontinuous word order in the grammaticality judgment task

A total of 6 items of the grammaticality judgment measured discontinuous word order. These items were divided into discontinuous word order in separable particle verbs, constructions of the kind modal/auxiliary plus infinitive and auxiliary plus past participle structures (see 5.5.1). Table 7.58 presents the results for all these three categories.

Table 7.58: Mean scores on the discontinuous word order (DWO) part of the grammaticality judgment task (N=123)

	1:attriters (*n*=43)	**2: controls (*n*=45)**	**3:acquirers (*n*=35)**	**mean**
separable particle verbs (max=2)	1.63	1.60	1.57	1.60
SD	0.50	0.54	0.50	0.51
mod/aux+ inf (max=2)	1.65	1.73	1.46	1.61
SD	0.57	0.45	0.56	0.53
aux+participle (max=2)	1.63	1.64	1.51	1.59
SD	0.54	0.48	0.61	0.54

No significant difference was found between the three groups (Wilks' Lambda = .948, $F_{(6,236)} = 1.069$, $p = .382$). All the grammaticality judgments subjects were asked to make contained a considerable amount of framed material, which apparently did not cause them to 'lose track' of verbs.

7.3.1.6.2 Predictor variables in relation to discontinuous word order

The lack of significant findings in relation to discontinuous word order also renders any consideration of predictor variables unnecessary.

7.3.1.6.3 Discontinuous word order in the free spoken data

No deviations were found in the use of discontinuous structures in the narratives of all three groups of subjects.

7.3.2 Summary of morpho-syntactic proficiency

The subjects did not differ from each other on all of the morpho-syntactic features under investigation. Rather, only negation and passive constructions showed a significant difference between the three groups as measured by the grammaticality judgment task. The more purely syntactic categories of V2,

subordination and discontinuous word order did not reveal significant differences between the three conditions. Instead, these various steps in the hierarchy of the phenomenon appear to have been mastered by all subjects. On the other hand, numerous V2 and subordination-related deviations were found in the speech of the attriters. These participants produced significantly more deviations in their narratives than either the controls or the children with respect to V2 and subordination. As was done for morphology (7.2), the overview below represents the significant and non-significant findings in relation to morpho-syntax.

		attriters vs controls	**attriters vs acquirers**	**controls vs. acquirers**
grammaticality judgment task (GJT) as a whole		***	n.s.	***
negation GJT	***niet***	**	n.s.	*
	geen	***	n.s.	***
negation free spoken data		n.s.	n.s.	n.s.
passive constructions GJT	**transitives**	n.s.	n.s.	n.s.
	intransitives	*	n.s.	***
passive constructions free spoken data		n.s.	n.s.	n.s.
V2 GJT	**subject-initial**	n.s.	n.s.	n.s.
	wh-	n.s.	n.s.	n.s.
V2 free spoken data		***	***	n.s.
subordination GJT	**temporal/causal clauses**	n.s.	n.s.	n.s.
	***dat*-clauses**	n.s.	n.s.	n.s.
subordination free spoken data		***	***	n.s.
discontinuous word order GJT	**separable particle verbs**	n.s.	n.s.	n.s.
	mod/aux + inf	n.s.	n.s.	n.s.
	aux + participle			
discontinuous word order				

free spoken data

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; n.s. = not significant

7.4 Self-perceived language proficiency

7.4.1 Self-perceived language proficiency: The can-do scales

In addition to being presented with language tasks, subjects were also asked to rate their own language proficiency by means of can-do scales (see 6.3.6). The results are given in Table 7.59. Because the can-do scales were only administered to the Dutch Canadians and the adult control subjects, no data is available for the child group (see 6.3.6.3).

Table 7.59: Mean scores on the Dutch can-do scales (N = 76)

	1:atriters (*n* = 35)	**2: controls (*n* = 41)**	**mean**
mean score (max=215)	164.09	174.56	169.33
SD	28.89	21.38	25.18

An independent-samples t-test indicated that the difference between these two means was not significant (t (74) = -1.809, p = .074). In other words, the subjects in Canada did not have a more negative or positive view of their overall Dutch language proficiency than the control subjects in the Netherlands. This result was striking, considering that the attriters produced significantly lower scores than the controls on many of the language tasks in the test battery.

Subjects' self-perceived overall language proficiency in Dutch was calculated by adding up self-assessment scores on listening, reading, speaking and writing proficiency. Table 7.60 separates the scores for each of these phenomena.

Table 7.60: Mean scores on the listening, reading, speaking and writing parts of the Dutch can-do scales (N = 76)

	1:atriters (*n* = 35)	**2:controls (*n* = 41)**	**mean**
listening (max=40)	35.31	36.37	35.84
SD	5.20	2.89	4.05
reading (max=35)	28.31	28.63	28.47
SD	4.80	3.45	4.13
speaking (max=85)	62.80	66.88	64.84
SD	12.53	10.90	11.72
writing (max=55)	37.66	42.68	40.17
SD	9.95	7.70	8.83

A MANOVA test of variance revealed a significant difference between both groups (Wilks' Lambda = .876, $F_{(4,71)} = 2.523$, $p < .05$, $\eta^2 = .13$), but this small effect was only found for writing proficiency ($p < .05$). Thus, the Dutch Canadians rated their Dutch writing proficiency, a productive language skill, significantly lower than the control subjects.

In addition, the subjects in Canada had a choice of completing a Dutch language version of the can-do scales or an English one. The majority of subjects (62.2%) preferred to complete the can-do questionnaire in English.

Furthermore, the Dutch Canadian subjects were asked to indicate their self-perceived proficiency in both Dutch and English. In order to compare the two languages, Table 7.61 contrasts subjects' self-assessment of Dutch and English proficiency.

Table 7.61: Mean scores on the Dutch and English can-do scales (N = 35)

Group	**mean score Dutch can-do scales (max=215)**	**SD**	**mean score English can-do scales (max=215)**	**SD**
1: attriters (*n = 35)*	164.09	28.98	181.80	26.25

First of all, a significant correlation was found between the outcomes of the Dutch and English can-do scales (r = .52, p < .001). In other words, subjects who rated their performance highly tended to do so in both languages. A paired-samples t-test furthermore revealed that the difference between the outcomes in both languages was significant. In other words, the subjects in Canada thought their overall English proficiency was better than their overall Dutch proficiency (t (34) = -3.871, p < .001, η^2 = .31), a medium effect, see Fig.7.7.

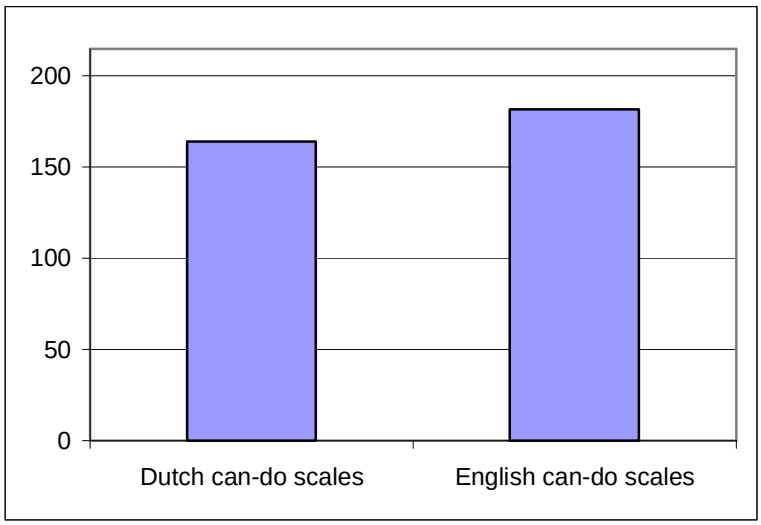

Fig. 7.7: The results of the Dutch Canadian group on the Dutch and English can-do scales

To present a more detailed picture, the separate scores for listening, reading, speaking and writing proficiency in both Dutch and English as indicated by the Dutch Canadian condition are contrasted in Table 7.62.

Table 7.62: Mean scores on the listening, reading, speaking and writing parts of the Dutch and English can-do scales (N = 39)

	Dutch	**English**	**mean**
listening (max=40)	35.30	38.05	36.68
SD	5.20	2.48	3.84
reading (max=35)	28.08	31.29	29.69
SD	4.85	3.57	4.21
speaking (max=85)	61.56	70.90	66.23
SD	12.87	11.86	12.37
writing (max=55)	37.32	43.56	40.44
SD	10.04	10.83	10.44

Paired-samples t-tests were conducted on each of the four linguistic areas, which invariably resulted in significant findings. Moreover, the correlation between the English and Dutch can-do scales was significant for all proficiency levels, as can be seen in Table 7.63.

Table 7.63: Results of the comparison between Dutch and English listening, reading, speaking and writing proficiency, as measured by the can-do scales

proficiency domain	**result**
listening proficiency	t (37) = -4.062, $p < .001$, $\eta^2 = .31$ ($r = .36$, $p < .05$)
reading proficiency	t (40) = -4.774, $p < .001$, $\eta^2 = .36$ ($r = .49$, $p < .005$)
speaking proficiency	t (40) = -4.774, $p < .001$, $\eta^2 = .36$ ($r = .49$, $p < .005$)
writing proficiency	t (40) = -3.875, $p < .001$, $\eta^2 = .27$ ($r = .51$, $p < .005$)

All of these effects can be classified as medium and are plotted in Fig. 7.8.

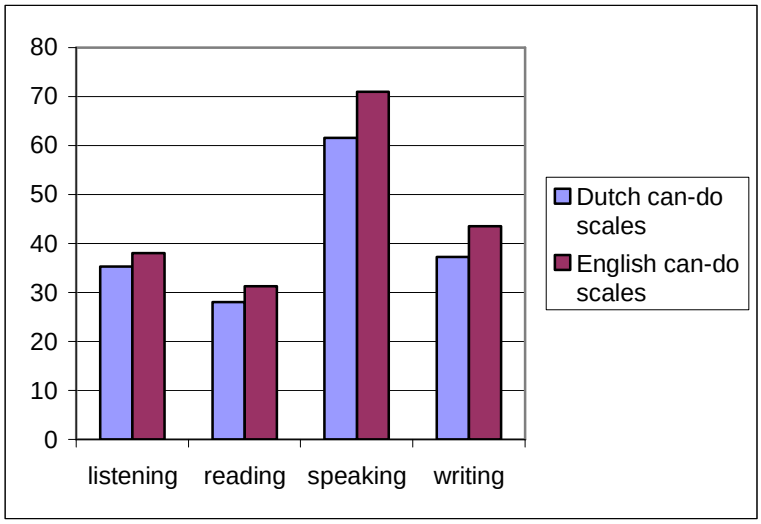

Fig. 7.8: The results of the Dutch Canadian group on the separated skills of the Dutch and English can-do scales

7.4.2 Summary of self-perceived language proficiency

Overall, the Dutch Canadians and control subjects in the Netherlands did not differ with respect to their self-perceived language ability in Dutch. When the results were separated for the four language skills of listening, reading, speaking and writing, only writing proficiency produced a significant difference between the two conditions. The subjects in Canada had a more negative view of their ability at this productive skill than the subjects in the Netherlands. Finally, the Dutch Canadians considered their English language proficiency to be superior to their Dutch language abilities, which conformed to the C-test findings (7.1.1.1).

7.5 The correlation between the can-do scales and formal language tasks

In the past, can-do scales have been found to be poor indicators of language proficiency, although they appear to be reasonably reliable in relation to attrition research (see 6.3.6). Correlation analyses were run on the basis of the outcomes of the can-do scales and each of the formal tests included in the test

battery. In all cases, the scores for the tests as a whole were included in the analysis. For example, the overall score on the Dutch C-test was taken into consideration rather than the separate scores on each of the five texts. Table 7.63 contains all these correlation analyses.

Table 7.63: Correlation analyses between the can-do scales and other tasks in the test battery

tests correlated	**outcome for attriters**	**outcome for controls**
English can-do scales VS English C-test	r_s[74] = .32, p < .05	-[75]
Dutch can-do scales VS Dutch C-test	r_s = .55, p < .001	r_s = .04, p = .805
Dutch can-do scales VS Noun phrase wug test	r_s = .43, p < .05	r_s = -.09, p = .574
Dutch can-do scales VS Verb phrase wug test	r_s = .35, p < .05	r_s = -.05, p = .751
Dutch can-do scales VS Grammaticality judgment task	r_s = .42, p< .05	r_s = -.01, p = .940

[74] The test statistic that was used in these correlation analyses was that of Spearman's correlation coefficient (r_s). Because of its non-parametric nature, it can deal with data that violate the parametric assumptions, as was the case in this study (Field, 2005: 129).

[75] As the control subjects did not complete either the English can-do scales or the English C-test, no score was obtained here.

In short, these findings support the claim that can-do scales are reasonable indicators of language proficiency in attriters. However, even for attriters the correlations between the can-do scales and the outcomes of the controlled language tasks were not very substantial.

7.6 Summary

The morphological and morpho-syntactic features that were included in this study were selected for their late acquisition in Dutch-speaking children. Most of these features indeed showed a significant difference between the three groups and the most frequently attested pattern was that the performance of the children and the attriters resembled each other. By contrast, the scores of the acquirers and attriters were typically below those of the control condition. Exceptions were the syntactic categories of discontinuous word order, V2 and subordination, where no significant difference between the three groups was attested. However, deviant forms were attested in the spontaneous speech with respect to the latter two phenomena, but only the attriters produced such deviations and no parallels were found between the Dutch Canadians and the learners anymore. Where part of the variance that was found could be explained on the basis of sociolinguistic variables, it was especially the factor of educational background that had an impact.

Chapter 8

Mirror Symmetries in the Acquisition and Attrition of Dutch Morphology and Morpho-syntax

This chapter briefly summarizes all those morphological and morpho-syntactic features that revealed a significant parallel between the acquirers and attriters on the one hand and the control subjects in the Netherlands on the other. In particular, it reviews whether the notion of regression can explain these findings. In addition, it relates the discussion to previous studies that have also taken regression into consideration and examined similar linguistic features. It also investigates if alternative explanations can be found for the observed parallels. In other words, to what extent are the similar performances on the part of the children and Dutch Canadians due to internal restructuring and to what extent is the data from the attriters also influenced by L2 English (externally-induced change)?.

8.1 Mirror symmetries in the acquisition and attrition of Dutch noun phrase morphology

The overall scores of the attrition and learner groups on the noun phrase part of the wug test did not differ significantly from each other, while the scores of both conditions were considerably below those of the Dutch controls. It has been argued that nouns are easier to 'package' cognitively than verbs, as the former frequently refer to concrete objects and entities, whereas verbs typically denote transitory actions (MacWhinney, 1998: 204). Still, the use of the correct inflection on nouns does tend to create problems, as shown by the outcome of this study. While all the noun phrase morphological features under investigation were found to result in significant differences between the three groups of subjects, the patterns that emerged were not invariably the same. All those features that showed a parallel between the acquirers and attriters are discussed in turn below.

8.1.1 Plural inflection

The only two plural subsystems that revealed a similarity between the children and the Dutch Canadians were plural nouns ending in *–en (boek – boek-en* – 'books') and irregular plurals that undergo a vowel alternation when pluralized, as in *schip – schep-en* ('ships'). They seemed to be the two aspects that children still had difficulty with and which showed signs of erosion in the attriters. In the case of irregular forms, the learners and attriters typically regularized the irregular plural form, as in *schoonheid – *schoonheiden* rather than the standard *schoonheden* (see 3.1.1). As English does not have the exact same irregular plural forms as Dutch, this outcome is almost certainly the result of internal restructuring. The increased regularization of irregular plural forms was also found in Smits (1996), where speakers of Iowa Dutch simplified vowel alternations. Instead of producing *stad – steden* ('city'), subjects were found to realize the plural of *stad* as **statten* (see 3.1.4).

Plurals in *–en,* on the other hand, were either replaced by *–s* plurals or, because of the phonotactic appearance of the word, were left uninflected (as in *keps-Ø*), both of which outcomes duplicate Smits's (1996) findings on Iowa Dutch. For one, the *–s* generalizations, as in **glik-s* instead of *glik(k)-en,* could be due to L2 influence from English, which also indicates the plural of nouns by attaching the suffix *–s*. Similar outcomes were found in Smits' (1996) study, where *–s* generalization was especially prevalent in cognates, such as *land – *land-s* ('country').

In fact, despite the apparent problem of children and attriters with plural morphemes that are acquired late, virtually no deviations were attested in the free spoken data. This reflects Schmid's (2002: 120) finding on the attrition of the plural in German nouns, assessed on the basis of spontaneous interview data. The low number of deviations in the free spoken data in both studies is presumably caused by the cognitively salient nature of plurals: they typically denote concrete objects (Schaerlaekens, 1977: 166, see 3.1.2).

8.1.2 Agentive formation

In accordance with what was found for plural inflection, the production of the two latest acquired agentive markers, *-aar* and feminine agentive markers, tested as part of the wug test, triggered similar performances on the part of the acquirers and attriters. The score of both groups of subjects was weak in

comparison with that of the controls on this phenomenon. Almost invariably, the children and émigrés replaced *–aar* by *–er,* resulting in forms like **linder-er* for *linder-aar*. Similarly, feminine agentives were regularized to resemble the masculine forms and were typically found to end in *–er* as well: the subjects in Canada and those in the child condition produced forms like **wimpel-er* for the expected *wimpel-aarster*. As agentives in *–er* also tend to be acquired earlier than the other two allomorphs, this pattern suggests an internal reorganization that is indicative of regression.

However, despite the fact that leveling in the direction of *–er* was found in both the acquirers and attriters, it was the attrition group that generalized it more often than the learners. Since English also indicates agentivity by means of *–er,* it is not clear if the pattern attested solely arises from internal restructuring, or whether L2 influence also played a role. Moreover, it is plausible that both forces interacted.

In the free spoken data, no deviant patterns were found at all, however, and subjects produced very few non-standard forms with respect to agentive formation. It was shown how this could be due to avoidance strategies; it appears to be relatively easy to omit agentives in narratives and paraphrase their communicative function instead. For example, rather than saying *the dancer*, it is perfectly legitimate to express this as *the girl who dances*. In fact, many attestations were present in the free spoken data set where subjects preferred analytic constructions such as *het meisje dat zwierf* ('the girl that wandered') over the synthetic *de zwerf-ster* ('the wanderer'). In fact, the acquirers and attriters produced fewer agentives than the controls in their narratives.

8.1.3 Article selection

Only the selection of the common gender article, *de*, revealed similarities between the children and the Dutch émigrés in the wug test. The subjects in both these groups tended to replace *de* by *het,* for example in **het kreek* where all the controls produced *de kreek*. As *de* is the more frequently attested and earlier acquired article of the two, this result did not conform to expectations that *de* would be overgeneralized at the expense of *het*. To compare, in a study on the attrition of German articles, the feminine article *die* was typically generalized across the board (Schmid, 2002: 108). This was explained by the fact that *die,* also being the article used for plural nouns, is the most frequent. Because this is

even more true for Dutch *de,* it is hard to see why subjects overgeneralized *het* at the expense of *de*. One possible explanation is that the children and attriters were aware of the fact that *de* is more frequent and were subsequently afraid that they had overused it, thus occasionally and apparently randomly replacing it by *het*. This process must be entirely due to internal restructuring, as English does not have the binary opposition between definite articles. This result thus fails to verify Smits's (1996) findings that the Dutch gender system starts showing signs of erosion in contact situations, reflected in the overgeneralization of the article *de* for both common and neuter nouns (see 3.3.4).

The prediction that *de* would be generalized at the expense of *het* was borne out by the free spoken data, but was only found for the attriters. These apparently mixed results make it hard to say anything about the validity of the regression hypothesis in relation to article selection.

8.1.4 Diminutive formation

The diminutive suffixes that showed a significant parallel in the performance of the acquirers and Dutch Canadians were *–tje (tafel – tafel-tje* – 'small table'), *-etje (tor – tor(r)-tje* – 'small bug'), *-pje (boom – boom-pje* – 'small tree') and *–kje (koning – konin-kje* – 'small king'). In all these cases, the acquirers and attriters produced significantly lower scores on the wug test than their adult, non-attrited counterparts. Instead of attaching the appropriate suffix, they typically overgeneralized the default marker *–tje,* resulting in forms like **lor-tje* (for *lor(r)-etje*) or **cyclaam-tje* instead of *cyclaam-pje*. This might be taken as support for the regression hypothesis. The diminutive marker *–je* (*hark - hark-je* – 'small rake'), by exception, did not conform to this pattern, which might be explained on the basis of its frequency: it is still acquired relatively early in child Dutch. In addition, this suffix can be attached to the stem of nouns with minimum phonological effort, making it relatively salient and easy for language learners. The attriters did appear to find *–je* difficult, reflected in the fact that their score with respect to diminutives in *–je* was significantly below that of the learners. As English does not have true equivalents of the Dutch diminutive allomorphs, all these tendencies appear to be triggered by internal restructuring rather than L2 influence.

None of the subjects was found to have any major difficulties with the formation of diminutives in the free spoken data, as very few deviant forms were attested. The acquirers and attriters did, however, avoid diminutives in their free speech: they used substantially less diminutives than the control subjects (see 7.2.1.6.3). In sum, it is mainly in relation to nonsense words that problems arose, and their nature conforms to the predictions made by the regression hypothesis.

8.2 Mirror symmetries in the acquisition and attrition of Dutch verb phrase morphology

With the exception of the simple present tense and auxiliary selection in periphrastic constructions, all of the verb phrase morphological features under investigation showed parallels between the subjects in Canada and the adolescents in the Netherlands. Interestingly, the verb phrase wug test as a whole did not show similar patterns of performance between these two groups. Instead, there was a three-way division of results: the controls outperformed the other two conditions, while the children still performed significantly better than the subjects in Canada. More insights into the acquisition and loss of verb phrase morphology can be obtained by looking at each verb phrase morphological feature that resulted in significant similarities between the learners and attriters in isolation.

8.2.1 Simple past tense

It was especially strong verbs that elicited similarly low scores on the part of the acquirers and attriters. The children and Dutch Canadians did not differ significantly in relation to weak verb forms either, but in addition there was no significant difference between the learners and controls, and the regression pattern found elsewhere was therefore not attested here. The problems with the production of strong verb forms were predicted on the basis of the acquisition literature (see 4.2.2) and have also been noted in previous studies on attrition. For example, Schmid (2002: 136) found similar tendencies for her group of German attriters, who either used weak morphology in the context of strong verb stems or produced incorrect vowel gradations. In Smits (1996), too, speakers of Iowa Dutch typically created more surface regularity by attaching weak verbal morphology to strong verb stems. This was also found in the

results of the present study: subjects either used weak inflection for verb stems that were modeled on strong verbs, as in **leg-ga-de* instead of the expected *leg-ging*, or they used a non-expected vowel alternation, as in **rewagen* for the expected *rewogen*. As both the English regular past tense morphology and vowel alternations are different in form, it is unlikely that this could have resulted from L2 influence in the case of the attriters. Instead, it appears to be caused by internal reorganization.

The use of strong forms in the wug test may have been confounded by the use of nonsense words. Prasada and Pinker (1993), in a study among adult native speakers of English, found that subjects were more likely to produce nonsense verbs with a strong conjugation when the nonce verb in question resembled the phonotactic form of existing verbs more closely. Those verbs whose form diverged more from the standard phonotactic rules of English verbs, however, typically received the regular *–ed* ending. This constraint is also likely to have played a role in the nonsense verbs of this study. For example, *nelpen* closely resembles the existing verb *helpen* ('to help'). As a consequence, it followed the strong conjugation (*nielpen)* more often than, for example, the nonce verb *leggaan,* derived from *gaan* ('to go'). The past tense of the latter was often formed by means of **leg-ga-de* rather than the strong *leg-ging*. The latter form would be expected if the past tense of *leggaan* was modeled on *gaan (gaan – ging)*.

Finally, relatively few deviations were found with respect to simple past tense formation in the spontaneous speech of the subjects. Where deviant forms did surface, it invariably concerned strong forms as in the wug test: subjects either provided weak morphology (**help-te* for *hielp)* or incorrect vowel mutations, exemplified in **droof* instead of *dreef*.

8.2.2 Past participles

While only the strong verbs showed a parallel in the case of simple past tense, in past participles both strong and weak forms revealed a significant similarity in performance between the learners and the Dutch Canadians. In other words, the regression hypothesis appeared to obtain in both strong and weak past participles. The children and attriters had most problems with strong past participle forms, however, which they tended to regularize. For example, **mezoekt* was found for *mezocht* and **rebrengd* often replaced *rebracht* in the speech

of the learners and émigrés. Schmid (2002: 136) also found that past participles were problematic for her group of German attriters. In addition, she argued that past participles may pose even greater problems than simple past tense due to their additional prefix. The present study also found prefixes to be problematic, notably in the children, who frequently produced double prefixes of the sort **ge-me-springd* for *me-springd* (see 4.3.1). As English past participles do not resemble their Dutch counterparts with respect to form, it seems most likely that these developments are the result of internal restructuring rather than constituting L2-induced changes.

The free spoken data of all subjects revealed very few deviant past participle forms and no significant difference was found between the three groups. The forms that were attested were invariably strong: instead of producing the expected *ge-molk-en,* subjects occasionally produced **ge-melk-t*. In other words, they regularized strong past participle forms.

Contrary to what is predicted in the acquisition literature and what was found in Smits for Iowa Dutch (1996, see 4.3.4), the narratives of the acquirers and attriters did not reveal tendencies to use significantly more periphrastic constructions than simple past tenses. In fact, the controls used more periphrastics whereas the Dutch Canadians and the children relied more on simple past tense forms, although not significantly so. This can be explained by the fact that the controls used proportionally more historic present tense forms to relate the film plot, making their narratives livelier. The acquirers and attriters, by contrast, typically adopted a sequential approach where the events in the film were related one-by-one, typically introduced by a temporal marker along the lines of *then*. This latter approach is likely to elicit simple past tense rather than periphrastic constructions.

8.2.3 Future tense

When asked to indicate the futurity of verbs as part of the wug test, both the children and attriters most often selected the verb *gaan* ('to go') to indicate the future. By contrast, the control subjects mostly formed the future by means of *zullen* ('will'). This was expected on the basis of the regression hypothesis: *gaan* future forms are attested earlier due to their saliency; children prefer to talk about the immediately future before they indicate the more distant future. Future tenses like *wij gaan happen* ('we are going to *hap*') on the basis of the

nonce verb *happen* were thus more frequently attested in the children and attriters than in the adult controls, who typically formulated this as *wij zullen happen* ('we will *hap*'). *Zullen* futures are the most common indicators of futurity in Dutch.

It is difficult to determine whether this tendency is purely the result of internal reorganization of the L1 or whether L2 influence also comes into play. English also allows the future to be formed by means of *going to: I am going to sing*. On the other hand, the children produced more *gaan* futures than the Dutch Canadians. The development of the future tense could thus be the result of an interaction between language-internal properties and external factors, notably in the attriters.

The free spoken narratives of all subjects were completely devoid of any future-related deviations. However, it was found that all three groups of subjects more frequently formed the future tense by means of *gaan* than *zullen*. In addition, the controls used *zullen* slightly more than the acquirers and attriters, again providing evidence for the regression hypothesis.

8.3 Mirror symmetries in the acquisition and attrition of Dutch morpho-syntax

A controlled way of measuring proficiency in Dutch morpho-syntax was achieved by means of the grammaticality judgment task, the result of which showed a significant parallel between the acquirers and attriters as opposed to the mature speakers in the Netherlands. The children and attriters were less accurate in judging the acceptability of Dutch constructions than the controls. In particular, the features of negation and passive constructions revealed similarities between the former two groups of subjects.

8.3.1 Negation

The judgment of negative Dutch sentences uncovered parallels between the youngest subjects and the people in Canada, both with respect to the standard particle *niet* ('not') and in relation to *geen* ('no/no one'). Subjects in the learner and Dutch Canadian conditions typically found it hard to judge sentences such as (1).

1) **De Nederlanders hadden niet uiteraard hun auto's versierd*
The Dutch have-PL.PST not of course their cars decorate-PTCP
'The Dutch had not, of course, decorated their cars'

The reason why this feature proved problematic may lie in the fact that it is conditioned by multiple linguistic domains: the choice of negative assertion over default declarative sentences is semantic, while negative particles themselves are both morphologically governed (*geen* is formed on the basis of *niet* + *een* ('a')), and syntactically governed with respect to their position in the sentence. It may be especially this interface that is cognitively demanding, resulting in a similarly low score on the part of the acquirers and attriters (see also 8.4). The evidence found in the grammaticality judgment task suggests internal remodeling. The placement of NEG in sentence (1) is not allowed in English either and could therefore not have resulted from L2 influence. Negation-related deviations were almost completely absent in the free spoken data.

8.3.2 Passive constructions

Passives in Dutch can be formed on the basis of both transitive and intransitive verbs, but it was especially the passive counterparts of intransitive verbs that proved problematic for the acquirers and attriters. The reasons for this are likely to be manifold. First, passives can be seen as marked counterparts of default active verbs and are thus challenging on a semantic level. Second, the cognitively demanding constructs of [±telicity] and [±agentivity] play a role (see 5.2.1). Third, and perhaps most importantly, passivization of intransitive verbs results in what are known as impersonal passives, which are even less salient than the more common passives of transitive, dynamic verbs (5.2.1). It is not without reason that intransitive passive constructions enter the child's repertoire at a later stage than transitive passives. This result is therefore in line with the predictions of the regression hypothesis.

Moreover, this effect in the attriters could also have been caused by L2 influence from English: English does not form passives on the basis of intransitive verbs. Perhaps these two forces combined and the lack of L1 Dutch input might lead to a reanalysis of passives in Dutch, with attriters coming to

think that only transitive verbs are allowed to passivize, because they are more frequent. At the same time, this idea might be confirmed by the lack of an L2 English equivalent for impersonal passives. As for the free spoken data, virtually no deviations in relation to passives were found in the free spoken data of the subjects.

8.3.3 V2

Although seemingly unproblematic in the grammaticality judgment task, the V2 rule was often not observed in the free spoken data of the Dutch Canadians. The narratives of the controls and the learners, on the other hand, remained largely error-free. This finding was unexpected on the basis of the regression hypothesis, since V2 is acquired relatively early and is thus not a candidate for early erosion. The fact that only the attriters produced deviations would point to L2 influence rather than regression patterns.

This has also been found for German (Schmid, 2002: 158-162), where attriters were clearly not following the reverse order of acquisition pattern, but instead applied the English word order in main declarative clauses, where the finite verb invariably follows the subject (see 5.3.3), but is allowed to be preceded by more than one element. The clauses produced by German attriters now also occasionally contained more than one fronted element before the finite verb (see 5.3.4, example (29)).

8.3.4 Subordination

A similar tendency as for V2 also emerged in relation to subordination: no significant difference between the conditions was found on the grammaticality judgment task, but the subjects in Canada did frequently produce subordination-related deviations in their spontaneous speech, significantly more so than the acquirers and controls. The majority of these instances involved a word order problem: the word order in subordinate clauses followed that of main clauses. In other words, V2 was observed, while the finite verb in subordinate clauses is typically placed clause-finally (see 5.4.1). Incidentally, this is also the word order found in English subordinates. As the attriters were the only ones displaying this tendency, it is likely to have been caused by external influence from the L2 rather than regression.

L2 transfer was also claimed to be the cause of German attrition of subordinate clauses (Schmid, 2002: 166-168). Here too, a deviant word order similar to English was found. Particularly problematic were subordinates introduced by *daβ* ('that'), again corresponding to what was found in the present study: *dat* (' that') subclauses were perceived as more difficult than temporal or causal subordinate clauses (see 7.3.1.5).

8.4 Mirror symmetries in the acquisition and attrition of Dutch morphology and morpho-syntax revisited

It has been argued that, in general, morphology tends to be more impaired than syntax in L1 attrition (Håkansson, 1995: 163-164). On the basis of this study it would indeed seem that there are more parallels between language acquirers and attriters with respect to noun and verb phrase morphology than in relation to morpho-syntax. One reason for this may lie in avoidance strategies: it may well be easier to avoid certain grammatical structures than it is, for example, to omit past tense marking. This is, of course, only applicable to free spoken data and no conclusive evidence for avoidance strategies was found on the basis of the spontaneous narratives of any of the subjects in this study.

Another reason may lie in the nature of the tests: while subjects had to productively realize a form in the wug test, they could choose between the options 'correct' and 'incorrect' in the case of the grammaticality judgment task. As a consequence, the chance that subjects unintentionally arrived at the correct answer was greater in the grammaticality judgment task than in the wug test (see also Chapter 10).

What may also be true is that morphological features tend to be conditioned on several levels, as opposed to the majority of syntactic phenomena. More specifically, the morphological features included in this study were typically found to be governed both by formal properties such as morphology or syntax, but also by semantic constraints. By contrast, the syntactic features of V2 and discontinuous word order are only morpho-syntactically conditioned and do not contain a semantic component. Examining the features that revealed significant similarities in the acquirers and attriters, it would appear that it is especially those features that involve a semantics interface (semantics/morpho-syntax; semantics/phonology, etc.) that are hard for language learners and Dutch émigrés alike. There are some notable

exceptions, such as adjectival inflection, which involves an interaction between semantics and morpho-syntax, and subordination, which is governed at the semantic/syntactic interface. Neither of these two phenomena elicited similar performances on the part of the learners and attriters. Finally, the category of future tense formation did produce parallels between these two groups, although the latter feature appears to be solely governed by semantic principles. The next chapter will explore these interface phenomena in more detail.

8.5 Summary

This chapter has shown that nine of the fifteen linguistic features that were investigated in this study revealed significant parallels between the language acquirers and attriters. In addition, two features (V2 and subordination) were found to result in significant findings in the sense that the attriters produced more deviant forms in their free spoken narratives. In this way, this study has revealed one of the most consistent regression patterns found to date, but at the same time has also shown that the division between language-internal restructuring and L2-induced change cannot always be easily maintained in the case of the attriters. While tendencies observed in the present study have frequently resembled those found in previous work (with regard to plural inflection, simple past tense inflection, and past participle inflection), there are also features that countered findings of earlier studies, most notably the feature of article selection. In general, only subtle differences were found between the acquirers and attriters on the one hand and the controls on the other. At no point were dramatic changes perceived in the attrition of Dutch in Dutch-Canadian émigrés, such as have been noted for Iowa Dutch speakers (Smits, 1996). For yet other features there was no comparable data available. In line with previous work, morphology has been found to be more impaired than morpho-syntactic features. A number of reasons have been presented to account for this fact, and the next chapter examines these in greater detail. For the sake of convenience, the morphological and morpho-syntactic overviews of significant and non-significant findings are reproduced below.

		attriters vs controls	attriters vs acquirers	controls vs. acquirers
noun phrase wug test as a whole		***	n.s.	***
plural inflection wug test	***-en***	**	n.s.	*
	-s	n.s.	***	***
	irregular	***	n.s.	***
plural inflection free spoken data		n.s.	n.s.	n.s.
agentive formation wug test	***-er***	**	n.s.	n.s.
	-aar	***	n.s.	*
	feminine	***	n.s.	***
agentive formation free spoken data		n.s.	n.s.	n.s.
article selection wug test	**de**	*	n.s.	*
	het	n.s.	n.s.	n.s.
article selection free spoken data		**	*	n.s.
adjectival inflection wug test	**inherent**	***	***	n.s.
	contextual	***	***	***
adjectival inflection free spoken data		n.s.	n.s.	n.s.
diminutive formation wug test	**-tje**	**	n.s.	***
	-je	*	**	n.s.
	-etje	**	n.s.	**
	-pke	**	n.s.	***
	-kje	**	n.s.	*
diminutive formation free spoken data		n.s.	n.s.	n.s.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; n.s. = not significant

		attriters vs controls	attriters vs acquirers	controls vs. acquirers
verb phrase wug test as a whole		***	n.s.	***

simple present tense wug test	***-t***	***	n.s.	n.s.
	-en	***	n.s.	n.s.
	irregular	***	***	n.s.
simple present tense free spoken data		n.s.	n.s.	n.s.
simple past tense wug test	**weak**	**	n.s.	n.s.
	strong	***	n.s.	***
simple past tense free spoken data		*	n.s.	n.s.
past participles wug test	**weak**	***	n.s.	**
	strong	***	n.s.	***
past participles free spoken data		n.s.	n.s.	n.s.
auxiliary selection wug test	***zijn***	**	n.s.	n.s.
	hebben	***	**	n.s.
auxiliary selection free spoken data		n.s.	n.s.	n.s.
future tense wug test	***zullen***	**	n.s.	**
	gaan	*	n.s.	**
future tense free spoken data		n.s.	n.s.	n.s.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; n.s. = not significant

		attriters vs controls	**attriters acquirers**	**vs controls vs. acquirers**
grammaticality judgment task (GJT) as a whole		***	n.s.	***
negation GJT	***niet***	**	n.s.	*
	geen	***	n.s.	***
negation free spoken data		n.s.	n.s.	n.s.
passive constructions GJT	**transitives**	n.s.	n.s.	n.s.
	intransitives	*	n.s.	***

passive constructions free spoken data		n.s.	n.s.	n.s.
V2 GJT	**subject-initial**	n.s.	n.s.	n.s.
	wh-	n.s.	n.s.	n.s.
V2 free spoken data		***	***	n.s.
subordination GJT	**temporal/causal clauses**	n.s.	n.s.	n.s.
	***dat*-clauses**	n.s.	n.s.	n.s.
subordination free spoken data		***	***	n.s.
discontinuous word order GJT	**separable particle verbs**	n.s.	n.s.	n.s.
	mod/aux + inf	n.s.	n.s.	n.s.
	aux + participle			
discontinuous word order free spoken data				

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; n.s. = not significant

Chapter 9
Discussion

The previous chapter has uncovered a number of similarities in the acquisition and attrition of Dutch morphology and morpho-syntax: attrition was frequently found to be the mirror image of acquisition. While this result is thus partly congruent with the regression hypothesis, the observation itself is not enough. It is not sufficient to merely note parallels in the order of language learning and unlearning. It is important to provide an explanation for this pattern. In other words, the question is no longer "*whether* regression is operative in the loss of grammatical structures, but rather *when* and under *what conditions* its predictions hold true, and what the causal mechanisms are" (Hansen, 1999: 150). This chapter is accordingly concerned with different ways of explaining the phenomena observed in the previous chapters. It focuses on the question why some features did reveal significant parallels between acquirers and attriters while others did not. In addition, regression patterns were found to interact with L2 influence in the case of attrition (see Chapter 8). In other words, both internal restructuring and externally-induced changes were found. The present chapter therefore evaluates how well existing theories can account for this interaction.

This chapter largely follows the structure of Chapter 1, in that it first of all reviews how well the outcomes of this study fit with generative explanations. It then moves on to consider whether usage-based accounts have any additional explanatory value in relation to the results and, finally, it offers an assessment of how well insights from Dynamic Systems Theory can be united with the findings. The final part of this chapter is then concerned with an evaluation of the three theories in an attempt to identify the best explanation for regression patterns.

9.1 Generative-based explanations for the mirror symmetries in acquisition and attrition

Generative accounts of regression patterns look for explanations within the structure of language itself. In particular, three generative-based notions may

have explanatory power in relation to regression: UG-constrained grammars, [±interpretable features] and parameter (re)setting (see 1.2.1.1).

9.1.1 UG-constrained grammars

In relation to the wug test, this study has shown that, although the acquirers and attriters did produce more deviant forms than the control subjects, the actual forms produced did not differ from those that were attested in the data of the controls. For example, in the simple past tense part of the wug test, the nonce verb *vrukken* was expected to elicit the past tense *vruk-ten,* based on the existing verbs *lukken* ('to succeed') or *rukken* ('to jerk'), which have their past tenses in *luk-ten* and *ruk-ten,* respectively. While *vruk-ten* was indeed produced by the majority of subjects, quite a few participants realized the past tense of the stem *vruk* as **vrok* or **vrak*. This was true for all subjects in all three conditions (see 8.2.1). Similarly, the attriters and acquirers, but also the control subjects in the Netherlands, were found to form **rondelen* as the simple past tense of *randelen,* where the expected past tense form was *randel-den.*

As the notion of UG is otherwise hard to operationalize (1.2.1.3), this outcome could be taken as the closest possible evidence that the developing grammars in advanced L1 acquisition and L1 attrition remain UG-constrained at all times. In any case, all language systems appear to observe similar principles: the difference between the acquirers and attriters on the one hand and the mature, native controls on the other appears to be purely quantitative in nature. At no point were the grammars of the acquirers and attriters different from what is conventional in Dutch. In other words, they did not constitute wild or rogue grammars.

9.1.2 [±interpretable features]

As shown in (8.4), this study found that features that were conditioned on both a semantic level and a more formal level (such as morphology or syntax) were especially demanding for acquirers and attriters. Examples of interface phenomena in the present study are plural inflection (conditioned on both the semantic and phonological level), agentive markers (also semantically and phonologically governed), but also simple past tense inflection (on the semantic and morpho-syntactic level). Such semantic/morpho-syntactic interface phenomena, referred to as the LF interface in generative approaches,

correspond to what have been called interpretable features (1.2.1.2). This outcome thus agrees with what was found in Tsimpli et al. (2004, see 1.2.1.2) in relation to the L1 attrition of Italian and Greek: interpretable features are not only acquired later, but they are also more prone to attrition.

9.1.3 Parameter (re)setting

What was also found in the present study was the possibility that a linguistic feature itself is often not impaired, but its distribution is. For example, all subjects were still able to form past participles, but the distribution between weak and strong forms was impaired in some participants. Similarly, all subjects still inserted an auxiliary in periphrastic constructions, but were not always sure about the binary choice between *hebben* ('to have') and *zijn* ('to be') (4.4.1). This, too, is in line with Tsimpli et al's (2004) findings that the parameter [+pro-drop] was not impaired in Italian and Greek, but its distribution was. As in UG-constrained grammars, it is difficult to operationalize the construct of parameter setting, but the outcome of this study does seem to come close to the original interpretation of the phenomenon[76]. In other words, the present study provides no evidence to suggest that parameters have been reset, but advanced L1 acquisition and attrition do give rise to optionality that is not found in mature native speakers. The question then is if such constrained variation can still occur under the parameter values for Dutch.

More generally, parameters are either set to a value or not and partial achievement is hard to explain. Examples of partial achievement are the syntactic features of V2 and subordination; on the basis of the narratives of the attriters it might be postulated that the V2 and subordination parameters in L1 Dutch have been reset to accommodate L2 English, as the word order that was adhered to in main declarative clauses and subordinates was frequently found to be in line with English principles and countered the rules of Dutch. However, these tendencies were not invariably found and the formal grammaticality judgment task did not show a similar trend. In other words, V2 and subordination showed partial achievement, notably in the attriters.

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[76] Auxiliary selection is generally not mentioned in accounts of parameter (re)setting. Other binary choices, such as whether the subject of a clause is overtly expressed ([±pro-drop]) are. However, it is far from clear which binary choices do constitute parameters and which ones are clearly not parametric choices.

9.1.4 Problems of generative accounts in relation to regression

Generatively-oriented ideas may seem to fit the data of the present study, but this project also delivered some outcomes that are difficult to unite with a generative reading of the regression hypothesis. First, and as indicated in the sections above, generative constructs tend to be hard to operationalize. As a consequence, their application to existing data is also problematic. Second, the fact that optionality occurs where features are produced correctly in one context and are used in a non-standard way in the next is hard to explain in the light of the parameter setting model (see 9.1.3).

What is also problematic is that generative accounts have no way of accounting for the influence external variables were found to have on the results. For example, education clearly had an impact on a number of findings. Children with a higher educational background generally did better on the language tasks than those who were enrolled in a lower level school. Similarly, evidence was found that highly educated émigrés tended to counter attrition effects, reflected in their overall high score on the formal language tasks.

On the whole, generative accounts cannot handle exceptions to the general tendency very well: neither exceptions in the sense of partial achievement nor exceptions in the sense of external factors like education distorting the general picture. Furthermore, their general operationalization is problematic.

9.2 Usage-based explanations for the mirror symmetries in acquisition and attrition

Usage-based approaches can take environmental factors into account. More specifically, they assume language input to be the basis of language development. Their validity in relation to regression essentially builds on three constructs: construction-based language development, analogy and the dichotomy of entrenchment and preemption (see 1.2.2.1).

9.2.1 Construction-based language development

The idea that language development takes place on an item-specific basis (see 1.2.2.2) can explain some of the findings of the present study. While the

acquirers and attriters both experienced similar difficulties with a number of linguistic features, their overall communicative competence in Dutch was not impaired. They were all perfectly capable of relating the plot of a story as part of the film retelling task. That in itself confirms earlier claims that L1 attrition in an L2 environment is item-specific and never involves the whole grammatical system (Jarvis, 2003: 99). Similar tendencies were found for the final stages of L1 acquisition.

At first, it may seem difficult to unite a construction-based developmental path with the nonsense word approach in the wug test since the words to be inflected did not exist. However, it was found that certain nonsense items were perceived as easier than others. In particular, those forms that resembled existing Dutch words more closely on a phonotactic level appeared to be easier to inflect than items whose forms deviated radically from real words (see 8.2.1).

In addition, the obvious problem of the acquirers and attriters with nonce items itself presents evidence for item-based learning: it has been argued that until the age of 3;0, children cannot transfer knowledge they have acquired on an item-specific basis to novel contexts (Tomasello, 2003: 119, see also 9.2.2). Until this age, they may use correct morphological distinctions, but in specific constructions only. The available evidence from studies that have looked at children's treatment of nonsense words supports this (Tomasello, 2003: 119). The present study suggests that older children and émigrés also have difficulty with the transfer of morphological distinctions to novel words, especially if the forms of the items are further removed from existing items.

The wug test also contained a number of existing lexical items, which showed similar degrees of perceived difficulty as the nonsense words. For example, all chosen verbs that elicited auxiliary selection were existing items due to the fact that the selection of auxiliaries takes place on the basis of telicity cues, which are not present in nonce items. While the correct auxiliary was invariably provided for the very frequent and early acquired verb *maken* ('to make'), problems were attested with auxiliary selection in periphrastic constructions involving the verb *wegen* ('to weigh'). *Maken* is cognitively salient for children given its dynamic nature, while *wegen* is not: there are very few instances in child language where its use is required. An additional complexity is formed by the fact that both auxiliaries in Dutch, *hebben* ('to have') and *zijn* ('to be') are acceptable in periphrastic constructions with *wegen,* but the interpretation of both constructions differs; *ik heb gewogen* ('I have weighed')

implies that the agent and subject coincide, whereas in *ik ben gewogen* ('I have been weighed') the initial *ik* ('I') is no longer the agent, but functions as the undergoer. On the whole, this finding supports the verb island hypothesis (see 1.2.2.2) in the sense that *maken* is acquired before *wegen,* including its complementation and periphrastic usage. Conversely, *maken* appears to be more robust in attrition than *wegen.*

The parallels between the acquisition and attrition of Dutch syntax can also be explained in terms of construction-based learning and fit better into the slot and frame approach that is prevalent in constructivism (see 1.2.2.2). Evidence from the grammaticality judgment task and some of the syntactic constructions found in the free spoken narratives suggests that the frame may be internalized by acquirers and attriters, but that it is the slots that are difficult. For example, the subjects in both groups appeared to know the frame for negation and the fact that it requires a negator, *niet* or *geen,* but the exact form of NEG and the placement in the clause vis-à-vis other constituents were problematic and sentences with an incorrect negator position were not invariably judged as incorrect.

Similarly, while subjects did appear to be familiar with the perspective change brought about by the passive construction frame, the exact nature of verbs that could be inserted into the open slot was less clear. Indeed, this depends on factors like [±transitivity], [±telicity] and [±agentivity] and it appeared to be the interaction that makes any judgment difficult (see 5.2.1). In line with the morphology findings, certain verbs were easier to judge than others. For example, the correct impersonal passive in (1a) was easier to judge than the unacceptable impersonal in (1b).

1a) *er werd gedanst*
there become-SG.PST dance-PTCP
'people are dancing'

1b) **er was gegroeid*
there be-SG.PST grow-PTCP
'people had grown'

Dansen ('to dance') is more dynamic than *groeien* ('to grow') and, in addition, contains more of an implied agent than *groeien.* The fact that there is such a difference between exemplars suggests that language acquisition and attrition

are both guided by item-specific constraints rather than general, random patterns of growth and decay.

9.2.2 Analogy

Following item-based learning, analogy involves abstracting information from exemplars and applying it to novel contexts. It is generally measured by nonce designs (1.2.2.3). As the wug test showed, advanced acquirers as well as attriters are able to draw analogies: they can inflect nonsense words, reflected in the fact that all participants achieved a relatively high score on the wug test. However, the control subjects were better at drawing analogies than the acquirers and attriters: they produced an overall higher score on both the noun phrase and verb phrase part of the wug test.

What was also found was that some analogies were easier to make than others. For example, article selection in the nonce word *degin,* created on the basis of *begin* ('start'), was perceived as easier than in the case of *leinde,* formed by analogy of *einde* ('finish'). In the first case, subjects supplied the article *het* relatively easily, while their choice of determiner for *leinde* was much more variable across the board; some provided *het* and others thought *de* suited the word better[77]. As in the overall scores on the noun phrase and verb phrase part of the wug test, the controls showed the least variation.

Evidence that language users work on the basis of analogies was also found in the morpho-syntactic domain. As predicted in Chapter 1 (1.2.2.3), intransitive passives were found to be more problematic than the passive forms of transitive verbs. While this was true for all subjects, the acquirers and attriters produced significantly lower scores than the participants in the control group. Perhaps the input of the children and émigrés did not meet the criterion of a critical mass of exemplars of intransitive passives, resulting in an inability to form abstractions in relation to this feature. This does not mean that the learners and attriters are not able to form intransitive passives at all. The constructions in (1a) were mostly judged correctly, but (1b) was not. This suggests an item-based learning mechanism, where more frequent items that are

[77] Perhaps the difficulty of *leinde* in comparison to *degin* is that in the former case a consonant has been added to the existing form *einde* ('finish'). By contrast, *degin* was formed by replacing the initial [b] in *begin* ('start') by [d]. It may be that the word *begin* is more easily recognizable than *einde.*

more salient in terms of agentivity and telicity (see 1.2.2.3), like *dansen* ('to dance') are acquired earlier and lost later than items that are less salient, such as *groeien* ('to grow').

9.2.3 Entrenchment and preemption

In general, this study focused on the advanced acquisition and attrition of morphology and morpho-syntax and found that only subtle aspects still needed to be acquired, accompanied by subtle losses in attrition. This duplicates Hutz's (2004) finding that morpho-syntax was less prone to attrition in his German subjects in the United States than, for example, lexical items (see 1.1.3). Hutz explained this outcome as morphology and syntax being more ingrained or entrenched as opposed to isolated pieces of information in the lexicon. The present study, too, found an abundance of code-switches in the attriters (see 7.1.3). Although less obvious for the advanced L1 acquirers (because no code-switches occurred here), the children's overall lexical diversity, as measured by *vocd* (see 6.3.2.4), was considerably lower than the lexical diversity of the adult participants.

Moreover, the present study found that purely syntactic phenomena, like V2 and discontinuous word order, were easier than features that were conditioned on more than one level, such as plural inflection or simple past tense formation (see also 8.4). In addition, morpho-syntactic phenomena like negation and passives produced more deviant scores than purely syntactic phenomena, such as discontinuous word order or subordination. Perhaps syntax is more ingrained than morphology, with inflections presenting more isolated pieces of information than syntax.

Those features that revealed a significant parallel between the acquirers and attriters were invariably less frequent items, such as irregular plural inflection or strong past tense forms. This indicates that the more frequent and more entrenched features are less problematic than more sporadic phenomena, and this effect is especially felt for the children and émigrés. The vast majority of frequent features under investigation in this study are also typically acquired early, which means that the competition between entrenchment and preemption cannot be assessed. One exception is plural inflection, where the *–s* plural marker precedes the acquisition of *–en,* despite the fact that the latter suffix is more frequent and has been called the default plural marker (see 3.1.1).

The data of all subjects showed that *–en* was more often generalized in *–s* contexts than vice versa (as in **groffel-en* for *groffel-s,* for example), which would in fact suggest that preemption processes were already at work in the case of the entrenched *–s* in the advanced L1 acquirers. While the *–en* was also most often overgeneralized in the attrition group, significantly more *–s* generalizations were found here than in the other two groups, presumably under the influence of English. For example, the Dutch Canadian participants produced forms like **glik-s* where the control subjects preferred *glik(k)-en*. The L2 might itself be a source of preemption for the entrenched *–en* plural marker. The optionality attested here indicates that the preemption process has not been completed, but may be underway.

Similarly, the narratives of the subjects in Canada suggest that English L2 may function as a source of preemption in relation to V2 and subordination, but the fact that the same subjects did not reveal any difficulties in relation to these two features on the formal grammaticality judgment task indicates that the preemption process has not been completed. This linguistic confusion that results from competition between entrenchment and preemption is thus clearly felt in the data.

9.3 Dynamic Systems Theory

Dynamic Systems Theory offers a chance to place usage-based explanations for regression patterns in an overarching framework. As the theory has only been applied to language relatively recently, the explanations it offers are by definition more abstract than those provided by constructivism, but can still fit the data generated by the present study.

First, Dynamic Systems are complex and consist of various subsystems that all interact. The study found that the language modules of morphology and syntax indeed interact: one particular feature, such as past participle formation, is governed by several modules: semantics, phonology and morpho-syntax. Not only is the choice of periphrastic constructions at the expense of simple past tense forms a semantic one, the form of the participle is governed by morphological principles. Finally, its placement in the sentence is conditioned syntactically (see 4.3.1).

Second, not all growth and decline measured in this study were linear, to the extent that this can be assessed on the basis of a synchronic design. Most

importantly, morpho-syntactic features, the focus of this study, were found to be acquired and lost much more gradually than lexical knowledge, reflected in subtle problems in acquisition and attrition of morphology and morpho-syntax and great differences in D scores and code-switches in the lexical domain. Even within one feature, non-linear development occurred; the transition from *–er* agentives to *–aar* agentives tended to be complete in most subjects included in this research, but the mastery of feminine agentives was not always in place.

Third, differences in the initial conditions of subjects were found to have an impact on the final results. In particular, the educational background of individual participants at the time of testing had a major influence on the results. Children who attended a higher-level school were found to produce overall better scores than children enrolled in a lower-level school. Similarly, émigrés who had a higher educational background could counter attrition effects to some extent, as evidenced by their higher overall score.

Fourth, and finally, attractor states can follow from differences in the input. Substantial variation was found across subjects, presumably arising from differences in the initial situation. While some subjects showed considerable linguistic insecurity, others were relatively constant in their performance. As language variation is greatest between attractor states, this difference can be explained as some subjects having settled in an attractor state while others were located between steady states, in search of a new equilibrium.

Perhaps the most important contribution Dynamic Systems Theory can make in relation to the regression hypothesis is its inherent idea of an interaction between language-internal properties and language-external factors. This interplay can explain the occurrence shown in the previous chapter of both internal restructuring and L2-induced change in the attrition group. Dynamic Systems Theory can therefore combine insights from generative frameworks that view regression as arising from language-internal properties and usage-based approaches that consider language as emerging on the basis of linguistic input.

9.4 Evaluating the explanations for the regression hypothesis

Having discussed both generative and usage-based explanations in relation to the regression hypothesis, we have illustrated how both accounts show overlaps in addressing the parallels between language acquisition and language attrition.

Most notably, both theories posit that features that are governed on more than one level are more demanding, especially for children and émigrés, than features that clearly belong to only one sub-module of language. More specifically, the fact that phenomena that are conditioned at both the semantic and morpho-syntactic levels are harder is an issue that has been taken up in both theoretical frameworks. Generativists explain this as interpretable features on the LF interface being more demanding than, for example, purely syntactic features. Usage-based accounts, on the other hand, look for explanations in the interaction between different subsystems within a complex system, something that is also clearly present in Dynamic Systems Theory. This example suggests that the differences between the two theoretical approaches may not be as great as has previously been assumed. Daneš (1987: 3) alludes to the fact that the structural aspect (referred to as the systemic perspective) and the functional approach appear side by side in the ideas of the Prague School, including those of Jakobson (see also 1.2.2).

In fact, recent years have seen an attempt by UG-based approaches to use insights from Dynamic Systems Theory in a generative framework. This has led to the postulation of so-called 'fields of attraction' (Mohanan, 1992) as a basis on which infinite variation is allowed within a finite grammar space. Fields of attraction are by nature gradient, unlike the discrete, parametric choices that have thus far characterized Universal Grammar (Larsen-Freeman, 1997: 150). As such, fields of attraction can be equated with the idea of attractor states found in Dynamic Systems Theory.

In addition, chaos/complexity theory has recently been used in an attempt to unite insights from child language acquisition, historical language change and evolutionary biology (cf. Lightfoot, 1999). Perhaps Dynamic Systems Theory can help close the long-standing gap between nativists and constructivists and eventually achieve a holistic, all-encompassing explanation for language development. Such a change in direction is scientifically relevant, because "if language is as complex as it is, it is not likely we will find a single process [theory] to account for all the complexity" (Larsen-Freeman, 1997: 154).

9.5 Summary

This chapter has been concerned with the "why question" of regression. As the order of acquisition itself is unlikely to constrain the order of attrition, the discussion has mainly focused on the similarity between constraints that are at work in both acquisition and attrition. In particular, the constraints from two theoretical frameworks were evaluated: those that underlie generativism and those that guide usage-based perspectives on language development. While both theories contain useful elements with which to explain the fact that attrition can be the mirror image of acquisition, problems arise in relation to generative accounts, as they are unable to explain the role of extralinguistic variables and thus the fact that acquisition and attrition do not occur in a vacuum.

In fact, it is the interaction between language-internal variables and external forces, as shown in usage-based approaches and Dynamic Systems Theory, that suggests the current formulation of the regression hypothesis to be incomplete; attrition may be the mirror image of acquisition, but L2 influence also plays a large role in the loss of L1 skills.

A new interpretation of the regression hypothesis that is less absolute therefore appears warranted. Such a reinterpretation can be justified on the grounds that the regression hypothesis dates from 1941 and much has become known about language development since that time: internal restructuring may be the general tendency, but language-external factors may influence or even distort the overall picture. Past studies have frequently expressed interest in the idea of regression, but at the same time have refrained from testing its predictions (see Introduction), perhaps out of insecurity about how to unite Jakobson's original ideas with current linguistic insights. Influential texts like Jakobson's *Kindersprache* have been referred to as founding texts and the problem with all such founding texts is that "in the past we have read them too literally. We have focused on their defects, defects which are so obvious in hindsight" (Selinker, 1992: 3).

Chapter 10
Conclusion

This chapter provides concluding remarks with regard to this study. It first reviews what implications may follow from the results that were obtained, both on an empirical and social level. The present study is not without its limitations, which in turn might constrain the generalizability of the outcomes. For this reason, certain methodological and theoretical shortcomings are indicated and, where appropriate, suggestions how future work could avoid similar pitfalls are presented. This leads to a discussion of more general recommendations for future research by pointing to those areas related to the subject matter of the present study where research is either scientifically or socially relevant.

10.1 Implications of the present study

The present study conforms to the tradition of holistic or life-span approaches to language development. The importance of such life-long perspectives has long been observed (Berko-Gleason, 1982: 13) and is reflected in attempts to record the parallels and divergences between unstable systems (see Introduction). This study has compared L1 attrition with advanced L1 acquisition in adolescents. Its findings thus have implications for studies attempting to do the same, but additional social implications also emerge.

10.1.1 Research implications

An immediate implication that follows from this study is that regression is a more subtle phenomenon than has previously been assumed. The fact that similar tendencies were found in the attriters and advanced L1 acquirers suggests that both language attrition and advanced language acquisition are also much more subtle than past studies have suggested. The majority of studies on regression have produced mixed results so far (Hansen, 1999: 150), and the outcome of the present study is arguably one of the most consistent ones: 9 of the 15 features under investigation revealed significant parallels between the acquirers and attriters (see Chapter 8). In other cases, there were often

significant differences in the performances of the three groups of subjects as well, but although the scores of the children and émigrés with respect to those features were often not significantly different, there was no difference between the adult controls and the children either.

This evidence for the subtlety of regression can lead to a reinterpretation of results from previous studies. In particular, this study has shown that more advanced L1 acquirers are better candidates to compare to attriters than children in the initial stages of their development. The failure of past research endeavors to arrive at a uniform picture of regression may partly be attributable to the fact that they have typically involved young children, based on the available language development literature (see Introduction). Furthermore, the present study has shown that the largest part of native language acquisition is complete by early adolescence, but that there continue to be areas characterized by residual optionality, where even 13 and 14 year-olds do not perform on the same level as mature native speakers. This trend is generally not reported in the acquisition literature and may form an interesting area of further research.

The present study is also one of the first in a line of regression-oriented research projects that has controlled for additional variables, such as educational level, but also L2 influence. Because of that, it has been able to show that regression only on the basis of L1 internal remodeling does not occur. Explanations must always be sought in the input that triggers growth and decline. In addition, some of the attrition that was found could be explained on the basis of L2 influence. The implication that follows from this result is that studies on regression must always consider other factors as well, ranging from sociolinguistic background variables to L2 influence.

Most previous research on regression has used the similarities in acquisition and attrition as a way of unraveling the constraints at work in fluctuating language systems. The question then arises what the results of this study can tell us about such constraints and, by extension, what they can reveal about the nature of language in general. In fact, the way in which the mirror symmetries are interpreted differs according to the vantage point that is taken. This study has argued for a usage-based explanation, where similarities between language growth and decay arise from competition for cognitive resources, either because of maturational constraints (in acquisition) or because of two language systems competing for the same memory space (in attrition). Within usage-based approaches, then, the most important constraint that governs both

acquisition and attrition is competition. This interaction of forces can lead to language change and, depending on the precise relation between the two, is reflected in either language growth or decline.

Finally, it is important to consider the ways in which the results from this study may be applied to help research in other, related, areas. Insights into the process of regression might be used to reconstruct lost stages of endangered languages and could thus possibly stimulate language revitalization programs (cf. Nietzielski, 1992). If an inventory of what is still present in the language is made, implicational hierarchies can show what must then also still be at the speaker's disposal. This can then be used to recover what has been lost and in which order those features must be reintroduced into the language.

10.1.2 Social Implications

It is all very well to describe, almost clinically, the nature and order of attrition and how it can be the reverse of acquisitional sequences, but attrition also involves social implications. Most of all, signs of native language erosion are often met with disbelief and frustration on the part of relatives and friends who stayed behind. These people now find that they are having communication problems with their emigrated relatives. Anecdotal evidence suggests that phenomena like word-finding difficulties, code-switches, foreign accents or deviant word order patterns in the L1 are perceived as unwelcome exaggerations. This study adds to the growing tradition of research that establishes attrition as a legitimate linguistic phenomenon that can be witnessed across different languages and cultures, and that is constrained by similar principles that also underlie other language systems in flux, such as acquisition. It can therefore contribute to an increased understanding of attrition on the part of non-linguists.

10.2 Limitations of the present study

This study may have revealed a number of interesting parallels between advanced L1 acquisition in adolescents and L1 attrition, but it is not without its limitations. These shortcomings may in turn have consequences for the generalizability of its results. In particular, problems arise with respect to this study's methodology and treatment of theoretical notions.

10.2.1 Methodological limitations

10.2.1.1 Limitations in relation to the population samples

A point of criticism that could be raised against this study's set-up is that it only included one age group of learners. This was based on the assumption that non-pathological attrition is a subtle phenomenon that can best be compared to the final, fine-tuning stages of acquisition. There were some instances, however, where the children still outperformed the Dutch Canadians. Examples are the morphological features of contextual adjectival inflection and some diminutive allomorphs, notably *–je*. In these cases, comparing the scores of the attriters with those of younger learners might have resulted in more accurate mirror symmetries. On the other hand, including a younger age group also requires an adaptation of the test battery, as the learners that were included in the present design already had problems with the completion of some tests, due to lexical reasons. In other words, they found some words in the grammaticality judgment task and even more so in the C-test hard to understand, complicating the test completion. Moreover, the children were found to perform similarly to or below the subjects in Canada with respect to most features under investigation. The involvement of younger children in the test design is not likely to result in similar outcomes, and as such would fail to take the gradual nature of attrition into account.

Another limitation of the present investigation lies in its synchronic research design. It has been suggested that the most natural way to record language changes in acquisition and attrition is by means of longitudinal measurements (Jaspaert et al., 1986: 38). Justifications for the synchronic approach used here can be found in 6.1.1.2. Most importantly, due to the gradual nature of L1 attrition, any diachronic designs need to span relatively long time intervals in order to find any signs of erosion (Jaspaert et al., 1986: 39) and a four-year PhD project cannot meet these criteria. An additional pitfall of using anything less than long time intervals is the notion of retraining effects, where the repeated contact with the L1 during the experiments might itself create a condition for language retention (Jaspaert et al., 1986: 39).

Related to this is the additional problem of incongruence between the static research design and the use of implicational hierarchies, the latter being essentially based on diachronic language development. Particular static points

of attrition are now compared to the stepwise hierarchy apparent in acquisition. While this does not present an optimal situation, practical considerations again played a role here. In addition, diachronic stages themselves are also established by a series of synchronic measurements. It is therefore questionable if true diachronic approaches exist at all (see also 6.1.1.2).

10.2.1.2 Limitations in relation to data collection

Another limitation lies in the construction and subsequent nature of the tasks that were employed in this study. In general, it can never be ensured that no processes other than those of direct interest play a role in the completion of test batteries. Performance factors like memory or processing demands may adversely affect subjects' performance (Tomasello, 2000: 216). In this study, it may be especially the artificialness of the tasks that had an impact on the results, notably in relation to the wug test and the grammaticality judgment task (see 6.3.4 and 6.3.5). Surprise was frequently expressed, especially by the adult subjects, at inflecting nonsense words as part of the wug test and these processing difficulties occasionally led to blanks because participants did not know how to inflect nonce items.

The grammaticality judgments that subjects were asked to make can also be called unnatural, which occasionally resulted in subjects choosing the 'don't know' option, especially in the case of the Dutch Canadians and the children (see 7.3.1). Another problem with the grammaticality judgment task is the fact that subjects frequently rejected a construction on lexical grounds, reporting that they did not like a certain word. If the structure itself was adequately judged, such lexically-based arguments were not taken into consideration. However, this might have obscured the results, because subjects were more focused on the lexical content of the sentence than its actual grammaticality.

Apart from the C-test, none of the tests in the battery was timed (see 6.3.5.1). While this was deliberately done to prevent time restrictions from interfering with a full utilization of linguistic knowledge and to prevent stress in typically elderly subjects, the use of reaction times might have been informative in some cases. For example, in order to test if features that are conditioned at the interface between different language subsystems (morphology/syntax and semantics, see 8.4), it would have been interesting to see if processing such structures indeed takes longer than dealing with features that are only governed

by one language area (only semantic in nature, for example). Earlier studies that have used time restrictions in relation to attrition (cf. Grendel, 1993), have not found great effects on the retention of language skills, however (Grendel et al., 1995: 133).

Finally, no video recordings were made of the completion of any of the tests. Although not the object of this study, gestures can reveal much about the underlying conceptual representations masked by speech (Gullberg, 2003). It has been found that gestures can reveal L1 influence in L2 production (Kellerman & van Hoof, 2003), and L2 influence in L1 production (Brown, 2005). Future studies on acquisition and/or attrition might therefore consider the use of video recordings, if only to arrive at a better understanding of what exactly underlies both phenomena.

10.2.1.3 Limitations in relation to data analysis

Apart from data collection, limitations also present themselves in the method of data analysis. The invocation of Dynamic Systems Theory in the discussion of the results (9.3), in particular, calls for alternative statistical analyses than the ones employed here. DST approaches view language as a Dynamic System in which all the input variables may be known and yet their interaction may result in unpredictable linguistic output patterns. Dynamic Systems Theory then appears to dictate the use of multi-level statistical analyses, because of its embedded nature: all variables that are involved in unstable language systems interact and are nested in other factors. Multi-level statistical analyses have been designed for such embedded research designs. Time restrictions did now allow such analyses in the present study, but it is desirable that future studies take this into consideration.

10.2.2 Theoretical limitations

Above everything else, the main aim of this study was to investigate parallels between L1 acquisition and L1 attrition and, in order to do so, implicational hierarchies were employed. It has been argued that no implicational hierarchy can ever posit that one linguistic feature precedes another in either acquisition or attrition (Hawkins, 1991: 474, see also 1.1.1). Instead, the strongest claim that can be made is that a feature either precedes or occurs simultaneously with a second phenomenon. This claim originates in dramatic individual differences

that can be perceived in acquisition and attrition. When looking at the linguistic behavior of a group of subjects, a clear trend can often be observed, which has led to the postulation of implicational hierarchies. When looking at each subject individually, however, the identification of clear stages becomes more problematic (de Bot et al., forthc.: 29). The present study, too, has mainly looked at group statistics. It is not our intention to claim that all acquisition and attrition studies should revert to earlier stages where case studies were predominant, but it is desirable that future work should also investigate individual differences rather than only look at group tendencies.

A second theoretical limitation lies in the application of Dynamic Systems Theory. It has been indicated before that employing a recent theory, at least in relation to language, involves a risk of turning it into a theory of nearly everything (Larsen-Freeman, 1997: 152, see also 1.2.3.2). This does not mean that DST does not have great potential for language analysis, but its precise value for this discipline needs to be more elaborately researched before it can truly be treated as an explanatory framework. The majority of research that is currently investigating the validity of Dynamic Systems in relation to language suggests a potential of DST in relation to linguistic phenomena (cf. de Bot & Makoni, 2005, de Bot et al., forth., de Bot, forthc.). In short, there may currently be some unresolved issues in relation to Dynamic Systems Theory, but its potential warrants a more in-depth investigation in future work.

10.3 Future directions

On the basis of the limitations of the present study, a number of recommendations for future research have already been formulated. On a more general level, it is desirable that the comparison between L1 acquisition and L1 attrition be expanded to include more language systems in flux, such as second language acquisition (in both children and adults), L2 attrition, bilingualism and multilingualism, language contact, pidgin or creole varieties and diachronic language change (Hansen, 1999: 4). Although a start has been made in the present research project, it is the study of language "during its unstable or changing phases that is an excellent tool for discovering the essence of language itself" (Slobin, 1977: 185, see Introduction).

10.3.1 Theoretically-based recommendations for future research on unstable language systems

Apart from the comparison between language acquisition and attrition, there is also a branch of research that investigates parallels and divergences between language acquisition and diachronic language change, or ontogeny and phylogeny. In fact, Jakobson (1941) not only compared child language with language loss in aphasia in his *Kindersprache* (see Introduction), but also included a third kind of language development: diachronic language change. The supposed parallels between language acquisition and language history are now usually captured in what has been labeled the recapitulation hypothesis (de Bot & Weltens, 1991: 31): the changes that one individual goes through in his or her lifetime are reminiscent of the changes that have been observed historically.

Studies that have investigated the parallelism between acquisition and diachronic change have either taken a generative vantage point (Lightfoot, 1999; Osawa, 2003) or have approached the two types of development from a usage-based perspective (Slobin, 1977; Tomasello, 2003). As a consequence, the explanations given for the similarities differ. The explanations formal theories of language offer is that grammar has derived from human phylogeny. Historical changes therefore necessarily resemble the stages in child language acquisition. Usage-based explanations view the similarities between ontogeny and phylogeny as emerging through competing operating principles that are at work in both systems. For example, there is an interaction between the principles to 'be quick and easy' and to 'be expressive' (Slobin, 1977: 186).

Regardless of the theoretical assumptions that guide the investigation, the number of studies that have examined the parallels and divergences between language acquisition in children and linguistic changes over time is limited. There is therefore very little evidence about how similar these systems actually are. More data-driven studies are needed to arrive at a better understanding of such parallels.

The ultimate aim of investigations into parallels and divergences between language acquisition, diachronic change, attrition, but also pidginization and creolization, would be to arrive at a better understanding of the complexity that is language, because notions such as markedness, implicational hierarchies and language universals could be investigated on a structural basis (Hansen, 1999: 150). This kind of research is currently already underway (cf. Boland, 2006). Boland's study seeks to answer the question whether language variation across

the world and the various stages that can be observed in child language are identical. In particular, the investigation focuses on the semantic notions of aspect, tense and modality and employs implicational hierarchies to answer its research question. More studies are needed that can collectively arrive at a more grounded answer to the issue of language universals.

10.3.2 Socially-based recommendations for future research on unstable language systems

On a societal level, it remains important to establish empirically-based reasons for attrition and to show that these are similar to stages found in other unstable language systems, because this can lead to greater understanding on the part of family or friends in the country of origin (see 10.1.2).

Very recently, another problem has presented itself in the situation of Dutch emigrants in Canada. The first-generation migrants that left the Netherlands shortly after the Second World War (see 6.1.0) are now close to or past retirement age. Housing for the elderly has been established throughout Southern Ontario to accommodate the growing need. This has usually been done through the help of the local church and has resulted in retirement homes in which the nursing staff speaks Dutch and everyday life (food, language, games) is very much Dutch-oriented (Schryer, 1998: 267). Presumably induced by these environments, it has been reported that the Dutch émigrés who live in these retirement homes are increasingly reverting to Dutch. This tendency is especially noticeable in people suffering from degenerative diseases like Alzheimer's, even to the point of L2 English attrition (Schryer, 1998: 270-271). As many people deliberately used English with their children throughout their lives, a poignant problem arises: they are no longer able to communicate with their children. Studies on language reversion are scarce, probably because the problem is a very recent one.

To date, only two studies have examined the phenomenon. Olshtain (1989) carried out longitudinal case studies in which she followed Hebrew children who had spent at least two years in an Anglophone environment, where they had acquired English as their L2. They subsequently moved back to Israel where they reverted to Hebrew and showed signs of erosion in English. Although several age groups were represented in this study, its case study

nature and the fact that fairly young language users were the sole participants heavily restrict the generalizability of its findings.

A second study that has looked at reversion is that by de Bot & Clyne (1989) and involves Dutch emigrants in Australia. Language reversion was attested, especially in those individuals whose educational background was relatively low and who were not expected to have attained a high level of English proficiency before attrition set in. This would then point in the direction of the critical mass hypothesis (1.1.3), but the authors themselves observe that what they found were mere trends and no decisive statements can be made on the basis of them (de Bot & Clyne, 1989: 174).

What else is known about language reversion is based on anecdotal evidence (Schryer, 1998: 270). It is therefore desirable that future work in the realm of unstable language systems also looks at reversion, especially now that it has become such a poignant social issue for many emigrants.

10.4 Summary

The implications that follow from this research are considerable. Not only has it been able to show that subtle optionality characterizes both advanced language acquisition and attrition, resulting in regression patterns, but the controlled nature of the study has also pointed to an interaction between regression and other factors, such as L2 influence. This can in turn be used as a starting point for future studies. On the other hand, a number of methodological and theoretical limitations have been identified that might have had an impact on the results and future research also needs to take these issues into account if it is to attain an even clearer understanding of parallels and divergences between different unstable language systems. Social implications and, relatedly, socially-based recommendations for future work have also proved to be very important in this study. Future research would do well to keep social considerations of applied research in mind. Looking for explanations outside the original boundaries of Jakobson's formulation of regression may at first seem counterintuitive, but as has happened with all foundational texts in linguistics, more recent research has been able to come up with more insights into the constructs underlying such theories and a failure to take that into consideration would not do justice to the original formulation of the regression hypothesis.

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List of Appendices

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Appendix 1: List of subjects

Subject Number	Name Code	Group	Year of Birth	Gender	Educational Level[78]	Place of birth (region)
1	IDA	Attriters	1935	Male	3	Bandung (Indonesia)
2	SCG	Attriters	1953	Female	5	Den Haag (central)
3	WIN	Attriters	1934	Male	2	Kollumerpomp (north)
4	BEG	Attriters	1937	Male	2	Zeist (central)
5	TAV	Attriters	1934	Female	2	Oranjedorp (north)
6	TAM	Attriters	1931	Male	2	Burdaard (north)
7	FLS	Attriters	1941	Male	2	Dieven (north)
8	HUN	Attriters	1944	Male	3	Heerenveen (north)
9	GAN	Attriters	1953	Male	5	Darendrecht (central)
10	COK	Attriters	1932	Female	3	Twyzelerheide (north)
11	GRN	Attriters	1936	Female	4	Naaldwijk (central)
12	KUR	Attriters	1940	Male	2	Den Haag (central)
13	VEM	Attriters	1939	Female	1	Enschede (central)
14	MOS	Attriters	1930	Female	2	Kesseloo (south)
15	WAM	Attriters	1936	Male	2	Sneek (north)
16	WAV	Attriters	1940	Female	2	Delft

[78] Educational level codes:
1 = primary school
2 = secondary school basic
3 = secondary school plus
4 = college
5 = university
For a definition of secondary school basic and plus, see 6.1.2.3.

						(central)
17	VRS	Attriters	Missing data	Male	2	Zwolle (central)
18	HEL	Attriters	1926	Female	2	Valtherland (north)
19	KLS	Attriters	1927	Male	5	Aalten (central)
20	LAN	Attriters	1938	Male	5	Blijham (north)
21	KES	Attriters	1933	Female	2	Amersfoort (central)
22	BSM	Attriters	1936	Male	2	Tilburg (south)
23	BSV	Attriters	1937	Female	2	Breda (south)
24	BTM	Attriters	1939	Male	2	Haarlem (central)
25	BTV	Attriters	1943	Female	2	Haarlem (central)
26	LWV	Attriters	1935	Female	1	Andijk (central)
27	LWM	Attriters	1936	Male	1	Oosterwolde (north)
28	TNM	Attriters	1934	Male	4	Weert (south)
29	TNV	Attriters	1937	Female	2	Eindhoven (south)
30	DAS	Attriters	1953	Female	2	Delft (central)
31	WIT	Attriters	1937	Male	5	Harkema (north)
32	TIM	Attriters	1933	Male	3	Oost-Lewedorp (south)
33	TIV	Attriters	1938	Female	4	Langeweg (south)
34	BUR	Attriters	1946	Female	3	Den Haag (central)
35	KUN	Attriters	1944	Female	2	Blija (north)
36	VMV	Attriters	1936	Female	5	Beverwijk (central)
37	VMM	Attriters	1935	Male	2	‘s-Gravenpolder

						(south)
38	HDM	Attriters	1944	Male	4	Herbayum (north)
39	HDV	Attriters	1949	Female	4	Djakarta (Indonesia)
40	FRI	Attriters	1933	Female	5	Amsterdam (central)
41	BIS	Attriters	1934	Male	3	Fijmaart (south)
42	GET	Attriters	1964	Female	3	Haren (north)
43	ETN	Attriters	Data missing	Female	3	Beilen (north)
44	HAY	Attriters	1940	Female	4	Den Haag (central)
45	SOR	Attriters	1936	Female	5	Amsterdam (central)
46	IEL	Controls	1934	Male	2	Rotterdam (central)
47	ARD	Controls	1959	Female	4	Haren (north)
48	MIS	Controls	1928	Male	5	Kerkrade (south)
49	ORE	Controls	1939	Male	3	Dokkum (north)
50	TAA	Controls	1953	Male	3	Den Haag (central)
51	BOK	Controls	1938	Female	4	Rheden (central)
52	ROS	Controls	1935	Female	2	Didam (central)
53	HON	Controls	1933	Female	3	Rijswijk (central)
54	MIM	Controls	1931	Female	2	De Lier (central)
55	MEA	Controls	1926	Female	1	Tiet (north)
56	KOS	Controls	1949	Male	5	Amsterdam (central)
57	SIT	Controls	1945	Male	2	Amsterdam (central)
58	HES	Controls	1937	Female	4	Amsterdam

						(central)
59	LON	Controls	1928	Male	3	Batavia (Indonesia)
60	BRK	Controls	1941	Female	5	Amsterdam (central)
61	HAN	Controls	1939	Female	2	Purmerend (central)
62	KRF	Controls	1940	Female	3	Maartensdijk (central)
63	ENR	Controls	1930	Female	4	Amsterdam (central)
64	OTN	Controls	1949	Female	4	Hoogeveen (north)
65	DWT	Controls	1945	Male	2	Castricum (central)
66	RUE	Controls	1952	Female	5	Amsterdam (central)
67	PEM	Controls	1934	Male	2	Nijkerk (central)
68	PEV	Controls	1931	Female	2	Amersfoort (central)
69	DAE	Controls	1933	Male	4	Arnemuiden (south)
70	MIK	Controls	1935	Female	3	Hilversum (central)
71	HAD	Controls	1960	Female	2	Den Haag (central)
72	LOS	Controls	1937	Male	5	Breda (south)
73	RAS	Controls	1940	Female	2	Zuid-Barge (north)
74	BOE	Controls	1934	Female	2	Enschede (central)
75	VEL	Controls	1941	Female	5	Vlissingen (south)
76	NYS	Controls	1938	Male	3	Maastricht (south)
77	MON	Controls	1937	Male	2	Weesp (central)
78	GEK	Controls	1933	Male	3	Groenloo (central)
79	VLN	Controls	1936	Male	5	Bijlham

						(north)
80	BOT	Controls	1940	Male	3	Oss (south)
81	BOA	Controls	1942	Female	3	Purmerend (central)
82	DIT	Controls	1925	Male	5	Amsterdam (central)
83	MAE	Controls	1933	Female	3	Nijmegen (central)
84	SPA	Controls	1933	Female	2	Leeuwarden (north)
85	SPS	Controls	1933	Male	4	Herpen (south)
86	VOG	Controls	1948	Male	2	Oss (south)
87	KOK	Controls	1943	Female	4	Kampen (central)
88	DVS	Controls	1946	Male	2	Groningen (north)
89	KRM	Controls	1940	Male	4	Den Haag (central)
90	KRV	Controls	1940	Female	4	Haarlem (central)
91	MAK	Acquirers	1990	Male	2[79]	Hilversum (central)
92	PAB	Acquirers	1991	Male	2	Nederhorst ten Berg (central)
93	LIS	Acquirers	1989	Female	3	Voorburg (central)
94	SAF	Acquirers	1990	Female	3	Leidschendam (central)
95	MKR	Acquirers	1989	Male	3	Voorburg (central)
96	GUM	Acquirers	1990	Male	3	Den Haag (central)
97	SHB	Acquirers	1990	Female	2	Nederhorst ten Berg (central)
98	TAG	Acquirers	1990	Female	2	Utrecht (central)

[79] None of the acquirers had completed their secondary education yet. The level of education that is given instead is the level in which the learners were enrolled at the time of testing.

99	RAB	Acquirers	1989	Female	3	Den Haag (central)
100	NAF	Acquirers	1989	Female	3	Leidschendam (central)
101	ERS	Acquirers	1989	Male	3	Den Haag (central)
102	MIE	Acquirers	1990	Male	3	Leidschendam (central)
103	SAM	Acquirers	1990	Male	2	Naarden (central)
104	ERD	Acquirers	1991	Male	2	Hilversum (central)
105	CHV	Acquirers	1991	Female	2	Emmeloord (central)
106	SIM	Acquirers	1991	Female	2	Elburg (central)
107	KIH	Acquirers	1990	Female	3	Den Haag (central)
108	SAB	Acquirers	1990	Male	3	Den Haag (central)
109	KEV	Acquirers	1991	Male	2	Hilversum (central)
110	FLH	Acquirers	1990	Female	2	Kampen (central)
111	SAA	Acquirers	1991	Female	2	Lelystad (central)
112	STB	Acquirers	1991	Female	2	Utrecht (central)
113	WIH	Acquirers	1990	Male	2	Lelystad (central)
114	TOM	Acquirers	1990	Male	2	Wageningen (central)
115	SAK	Acquirers	1990	Male	2	Almere (central)
116	JOJ	Acquirers	1990	Male	2	Kampen (central)
117	MAS	Acquirers	1991	Female	2	Hilversum (central)
118	CHK	Acquirers	1991	Female	2	Hilversum (central)
119	BAS	Acquirers	1991	Male	2	Amersfoort (central)

120	NIS	Acquirers	1990	Male	2	Kampen (central)
121	RIS	Acquirers	1991	Male	2	Kampen (central)
122	ANB	Acquirers	1991	Male	2	Dronten (central)
123	TOL	Acquirers	1990	Male	2	Kampen (central)
124	DAB	Acquirers	1990	Male	2	Kampen (central)
125	ANR	Acquirers	1990	Female	2	Utrecht (central)

Appendix 2a: Sociolinguistic Questionnaire for the Attriters

(Dutch Version)

Deze vragenlijst is bedoeld om een beeld te krijgen van de achtergrond en het taalgebruik van Nederlandse emigranten in Canada. De vragenlijst bestaat uit 79 vragen, maar het kan zijn dat niet alle vragen op u persoonlijk betrekking hebben. Mocht u vinden dat dit het geval is (bijvoorbeeld wanneer u gevraagd wordt naar het taalgebruik van uw kinderen, maar u heeft geen kinderen), dan mag u deze vraag overslaan. Het is belangrijk dat u deze vragenlijst alleen invult, want ik ben geïnteresseerd in *uw* taalgebruik. Mochten er dingen niet duidelijk zijn voor u, dan kunt u dat natuurlijk altijd vragen. Er bestaan geen goede of foute antwoorden!

1. Wat is uw geboortedatum?.....19……..

2. bent u een: O man O vrouw

3. Waar bent u geboren:
Dorp/stad: .....
Provincie: .....
Land:.....

4. Wat is uw huidige nationaliteit?

……

5. Denkt u dat u standaard Nederlands sprak voor uw vertrek naar Canada of een dialect?
O standaard Nederlands
O een dialect, namelijk: .....

6. Wat is het hoogste schoolniveau dat u in Nederland heeft afgerond?
O lagere school
O middelbare school, niveau:
O beroepsonderwijs, namelijk:
O universiteit, opleiding:

7. In welk jaar bent in naar Canada gekomen? 19.....

8. Waarom bent u geëmigreerd en waarom naar Canada in het bijzonder?

……
……
……
……

9. Hebt u, naast Canada, in een ander land dan Nederland gewoond voor een langere periode (meer dan 6 maanden)?

O nee
O ja, namelijk in:…….. voor een periode van: ……..

10. Welke taal of talen kende u voor u in Nederland naar school ging?
O alleen Nederlands
O ook (een) andere taal/talen, namelijk: ……..

11. Hebt u Engelse lessen gehad voor u naar Canada kwam? (hiermee wordt bedoeld in een educatieve omgeving: dat kan op school zijn of elders):
O nee
O ja, gedurende (jaar): ……..

12. Hebt u in Canada verdere scholing gevolgd (dit hoeft niet met taal te maken te hebben)?
O ja, gedurende (jaar): ……..
O nee

13. Welke taal of talen hebt u geleerd op school of later voor uw werk?
……
……
……
……

14. Welke taal of talen hebt u geleerd los van een educatieve omgeving (dus buiten school of uw werk om)?
……
……
……
……

15. Wat is uw huidige beroep? Indien u gepensioneerd bent, wat was dan uw laatste beroep?
……

16. Indien u meerdere beroepen hebt gehad, kunt u deze dan in chronologische volgorde aangeven?
……
……
……

17. Hebt u in Canada ooit opfrislessen genomen om uw Nederlandse taalbeheersing op te frissen?
O nee
O ja, in (jaar) 19……..voor een periode van: ……..maanden

18. Bent u wel eens teruggeweest naar Nederland terwijl u in Canada woonde?
O nee, nooit

O ja, maar niet erg vaak
O ja, regelmatig: ongeveer: …….. keer per jaar.

19. Indien u hebt aangegeven nog wel eens terug te gaan naar Nederland, wat zijn dan de redenen voor zo'n bezoek (u kunt hier meerdere mogelijkheden aankruisen):
O vanwege een dringende familieaangelegenheid, zoals een bruiloft of begrafenis
O om familieleden en kennissen te bezoeken
O een andere reden, namelijk: ……..

20. Woont u wel eens een kerkdienst bij in Canada?
O nee, nooit
O ja, af en toe
O ja, regelmatig

21. Indien u bij vraag 20. heeft geantwoord wel eens een kerkdienst bij te wonen, in welke taal wordt de dienst dan over het algemeen gehouden?
……

22. Over het algemeen genomen, hoe denkt u dat uw Engelse taalvaardigheid was voor uw vertrek naar Canada?
O zeer goed
O goed
O redelijk
O tamelijk slecht
O zeer slecht

23. Over het algemeen genomen, hoe schat u uw Engelse taalvaardigheid op dit moment in?
O zeer slecht
O tamelijk slecht
O redelijk
O goed
O zeer goed

24. Over het algemeen genomen, hoe denkt u dat uw Nederlandse taalvaardigheid was voor uw vertrek naar Canada?
O zeer goed
O goed
O redelijk
O tamelijk slecht
O zeer slecht

25. Over het algemeen genomen, hoe schat u uw Nederlandse taalvaardigheid op dit moment in?
O zeer slecht
O tamelijk slecht
O redelijk
O goed

O zeer goed

26. Hoe vaak spreekt u tegenwoordig Nederlands?
O dagelijks
O wekelijks
O maandelijks
O een aantal maal per jaar
O minder, namelijk:……..

27. Hoe belangrijk vindt u het dat uw Nederlands op niveau blijft?
O zeer belangrijk
O belangrijk
O geen mening
O tamelijk onbelangrijk
O zeer onbelangrijk

28. Hoe belangrijk vindt u het dat uw kinderen Nederlands kunnen spreken en begrijpen?
O zeer onbelangrijk
O tamelijk onbelangrijk
O geen mening
O belangrijk
O zeer belangrijk

29. Hebt u over het algemeen meer Nederlands- of Engelssprekende vrienden in Canada?
O alleen Nederlandstalig
O zowel Nederlands- als Engelstalig, maar meer Nederlandstalig
O evenveel Nederlands- als Engelstalig
O zowel Nederlands- als Engelstalig, maar meer Engelstalig
O alleen Engelstalig

30. Voelt u zich meer één met de Canadese of de Nederlandse cultuur?
O met de Canadese
O met beide, maar vooral de Canadese
O met beide culturen evenveel
O met beide, maar vooral de Nederlandse
O met de Nederlandse

31. Voelt u zich prettiger als u Nederlands of Engels spreekt?
O geen voorkeur
O Nederlands
O Engels

32. Kunt u een reden geven voor uw antwoord bij vraag 31: waarom voelt u zich prettiger bij één van beide talen of waarom hebt u geen voorkeur?
……
……

……
……

33. Wat is uw huidige burgerlijke staat?
O getrouwd
O gescheiden
O weduwe/weduwnaar
O ongehuwd samenwonend
O alleenstaand

34. Met welke taal/talen is uw (ex)partner opgegroeid?
O Engels
O Nederlands
O anders, namelijk:……..

35. Indien uw (ex)partner niet in Canada is geboren, wat was dan voor hem/haar de reden om naar Canada te komen?
……
……
……

36. In welk jaar is uw (ex)partner naar Canada gekomen? 19……..

37. Hoe hebt u elkaar ontmoet?
……
……
……
……

38. Welke taal of talen gebruikt(e) u meestal om uw (ex)partner aan te spreken?
O uitsluitend Nederlands
O zowel Nederlands als Engels, maar meestal Nederlands
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Engels
O uitsluitend Engels

39. Welke taal of talen gebruikt(e) uw (ex)partner meestal om u aan te spreken?
O uitsluitend Engels
O zowel Nederlands als Engels, maar meestal Engels
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Nederlands
O uitsluitend Nederlands

40. Wat is het huidige beroep van uw (ex)partner? Indien hij of zij gepensioneerd of overleden is, kunt u dan aangeven wat zijn of haar laatste beroep was?
……

41. Hebt u kinderen?

O nee
O ja, zij zijn……...jaar oud

42. Welke taal gebruikt u meestal om uw kinderen aan te spreken?
O uitsluitend Nederlands
O zowel Nederlands als Engels, maar meestal Nederlands
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Engels
O uitsluitend Engels

43. Welke taal of talen gebruiken uw kinderen meestal om u aan te spreken?
O uitsluitend Engels
O zowel Nederlands als Engels, maar meestal Engels
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Nederlands
O uitsluitend Nederlands

44. Hebt u kleinkinderen?
O nee
O ja, zij zijn……...jaar oud.

45. Welke taal of talen gebruikt u meestal om uw kleinkinderen aan te spreken?
O uitsluitend Nederlands
O zowel Nederlands als Engels, maar meestal Nederlands
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Engels
O uitsluitend Engels

46. Welke taal of talen gebruiken uw kleinkinderen meestal om u aan te spreken?
O uitsluitend Engels
O zowel Nederlands als Engels, maar meestal Engels
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Nederlands
O uitsluitend Nederlands

47. Moedigt u uw kinderen aan om Nederlands te gebruiken?
O ja, af en toe
O nee, nooit
O ja, vaak

48. Hebben uw kinderen wel eens opfrislessen Nederlands gevolgd (bijvoorbeeld door middel van zaterdagklasjes)?
O nee
O ja

49. Corrigeert u het Nederlands van u kinderen wel eens?
O nooit
O heel soms

O soms
O regelmatig
O vaak

50. Indien uw kinderen geen Nederlands meer spreken of begrijpen, vindt u dat dan jammer?
O helemaal niet jammer
O niet jammer
O geen mening
O wel jammer
O heel jammer

51. Onderhoudt u veel contacten met vrienden en familie in Nederland?
O heel vaak
O vrij vaak
O regelmatig
O soms
O vrijwel niet

52. Wanneer u dat wel doet, hoe onderhoudt u dan deze contacten? (u kunt hier meerdere mogelijkheden aankruisen)
O telefoon
O brieven
O e-mail
O anders, namelijk: ……...

53. Wat voor een taal of talen gebruikt u meestal om in contact te blijven met vrienden of familie in Nederland?
O uitsluitend Nederlands
O zowel Nederlands als Engels, maar meestal Nederlands
O evenveel Nederlands als Engels
O zowel Nederlands als Engels, maar meestal Engels
O uitsluitend Engels

54. Denkt u dat de Nederlandse taal een belangrijk middel is om de samenhang tussen uw directe familieleden te behouden?
O zeer zeker
O zeker
O geen mening
O niet echt
O helemaal niet

55. Hebt u veel nieuwe vrienden en kennissen ontmoet in Canada?
O ja
O nee

56. Welke taal spreekt de meerderheid van deze mensen van origine?
O Nederlands

O Engels
O een andere taal

57. Hoe hebt u het merendeel van deze mensen ontmoet?
O via een Nederlandse club of organisatie
O via een wederzijdse kennis
O via het werk; of de school van de kinderen
O via een andere weg, namelijk: ……...

58. Zou u in het onderstaande schema de mensen in kunnen vullen waarmee u het meest in contact staat? Dit kunnen zowel mensen in Nederland als in Canada zijn. Ik wil hiermee kijken welke taal u het meest gebruikt in uw dagelijks leven: Nederlands of Engels. U hoeft de naam van de desbetreffende persoon niet in te vullen als u dat liever niet doet. Zou u wel de overige informatie waarnaar gevraagd wordt kunnen geven? Als voorbeeld is al één naam ingevuld.

Naam (optioneel)	**Woont deze persoon in Canada of Nederland?**	**Welke taal spreekt u met hem/haar?**	**Hoe hebt u deze persoon ontmoet?**	**Hoe lang kent u deze persoon al?**	**Wat is uw relatie met hem/haar (familie/vriend)?**
Marjolijn Keijzer	Nederland	Nederlands	Zusjes	23 jaar	Familie (zusters)

59. Kunt u in onderstaande schema's invullen in welke mate u Nederlands (tabel 1) of Engels (tabel 2) spreekt in de aangegeven contexten door kruisjes te zetten? Wanneer een bepaald domein niet op u van toepassing is (als u bijvoorbeeld geen huisdieren heeft), mag u de categorie open laten.

Ik spreek Nederlands					
	zeer veel	veel	soms	vrijwel niet	nooit
Met familie					
Met vrienden					
Tegen huisdieren					
Op het werk					

In de kerk					
In winkels					
Op clubs of verenigingen					
Anders, namelijk:					

Ik spreek Engels					
	zeer veel	veel	soms	vrijwel niet	nooit
Met familie					
Met vrienden					
Tegen huisdieren					
Op het werk					
In de kerk					
In winkels					
Op clubs of verenigingen					
Anders, namelijk:					

60. Bent u tijdens uw verlijf in Canada ooit lid geweest van een Nederlandse vereniging of organisatie?
O nee
O ja, namelijk (naam club en periode van lidmaatschap): ……...

61. Bent u op dit moment lid van een Nederlandse vereniging of organisatie?
O nee
O ja, namelijk (naam club): ……...

62. Hebt u wel eens heimwee naar Nederland?
O nee
O ja, wat ik dan het meeste mis is/zijn:
……

63. Luistert u wel eens naar Nederlandstalige liedjes?
O nee
O ja

64. Luistert u wel eens naar Nederlandstalige radioprogramma's?
O nee
O ja

65. Leest u wel eens Nederlandstalige kranten, boeken of tijdschriften?
O nee
O ja

66. Kijkt u wel eens naar Nederlandstalige televisieprogramma's?
O nee
O ja
O ik zou het graag willen, maar ik kan dat niet ontvangen

67. Als u hebt ingevuld eigenlijk niet naar Nederlandstalige liedjes of radioprogramma's te luisteren, indien u geen Nederlandstalige lectuur leest en niet naar Nederlandstalige televisieprogramma's kijkt, kunt u dan aangeven waarom niet?
……
……
……
……

68. Denkt u dat uw Nederlandse taalvaardigheid is veranderd sinds uw vertrek naar Canada?
O nee
O ja, ik denk dat mijn Nederlands beter is geworden
O ja, ik denk dat mijn Nederlands slechter is geworden

69. Denkt u dat u Nederlands in een andere mate gebruikt sinds uw vertrek naar Canada?
O nee
O ja, ik denk dat ik minder Nederlands gebruik
O ja, ik denk dat ik meer Nederlands gebruik

70. Voelt u zich wel eens ongemakkelijk als u Nederlands praat tegen een Nederlander die nooit voor langere tijd Nederland uit is geweest?
O ja, soms
O nee, nooit

71. Als u zich in zo'n situatie wel eens ongemakkelijk voelt, is dit dan minder wanneer u Nederlands praat met een Nederlander die, net als u, al langere tijd in Canada woont?
O ja, dan is het minder ongemakkelijk
O nee, dat maakt niets uit

72. Ziet u zichzelf als tweetalig? Met andere woorden: denkt u even goed te zijn in het Engels als in het Nederlands?
O nee, want……..
O ja, want……..
O dat weet ik niet, want……..

73. Kunt u mensen beter plaatsen wat betreft hun maatschappelijke positie/status wanneer zij Engels of Nederlands praten?

O Nederlands, omdat……..
O Engels, omdat……..
O het maakt geen verschil, omdat……..

74. Wat vindt u van mensen die een sterk Nederlands accent hebben als zij Engels praten (Nederlandse toeristen bijvoorbeeld)?
O ik erger mij daaraan
O ik heb daar geen problemen mee

75. Bent u van plan om ooit weer terug te verhuizen naar Nederland?
O nee, ik wil nooit meer terug naar Nederland
O ik heb daar nog nooit echt over nagedacht
O ja, ooit zou ik wel weer terug willen

76. Indien u hebt aangegeven nooit meer terug te willen keren naar Nederland, wat zijn dan uw redenen om dit niet te doen?
……
……
……
……

77. Als u terugkijkt, denkt u dan dat u de juiste beslissing heeft genomen om naar Canada te verhuizen?
O ja
O nee, als ik weer mocht kiezen, zou ik niet naar Canada zijn gegaan, omdat
……
……
……

78. Hebt u er bezwaar tegen als ik contact opneem met uw familieleden in Nederland (liefst broers en zusters) om hen te interviewen over het leven met een familielid in Canada? Uiteraard kunt u er zeker van zijn dat al deze informatie vertrouwelijk behandeld zal worden. Indien u hier geen bezwaar tegen hebt, kunt u dan de naam of namen, adressen en telefoonnummers geven van uw broers of zusters in Nederland?
……
……
……
……

79. U bent aan het einde gekomen van deze vragenlijst. Is er tot slot nog iets dat u wilt toevoegen of opmerken? Dat kan gaan over het onderzoek, uw houding tegenover de Engelse of Nederlandse taal of over de vragenlijst zelf.

Appendix 2b: Sociolinguistic Questionnaire for the Attriters

(English Version)

With this questionnaire I would like to get an impression of the personal background and language use of Dutch emigrants in Canada. It consists of 79 items. It is important to note that not all items may apply to you personally. Should you think that a certain item does not apply to you (for example when you are asked about the language use of your children and you don't have any children), you may cross out the number in front of that particular question and move on to the next. It is important that you answer these questions on your own, because I am interested in *your* language use. If you don't understand a certain question, please do not hesitate to ask me. There are no right or wrong answers!

1. What is your date of birth?.....19……..

2. Are you: O male O female

3. Where were you born:
Village/Town:……..
County: ……..
Country: ……..

4. What nationality do you have?
……

5. Would you say that you spoke a standard variety of Dutch while you lived in the Netherlands or a dialect?
O standard Dutch
O a dialect, namely: ……..

6. What is the highest level of education you have completed?
O primary school
O secondary school, level:
O higher education, namely:
O university, degree:

7. When did you come to Canada (year)? 19……..

8. Why did you emigrate and why to Canada in particular?
……
……
……
……

9. Apart from Canada, have you ever lived in a country other than the Netherlands for a longer period of time (that is, more than 6 months)?
O no

O yes, in:……..for the period of:……..

10. What language(s) did you acquire before starting school?
O only Dutch
O (an)other language(s) as well, namely: ……..

11. Did you attend any English classes before coming to Canada? (this has to be in an educational environment, like school or some similar institution):
O no
O yes, for the duration of (number of years): ……..

12. Have you pursued further education while living in Canada? (this does not have to be language-related)
O yes, for (number of years): ……..
O no

13. What language or languages did you learn professionally or at school?
……
……
……
……

14. What language or languages did you learn outside of an educational environment (so outside of school or work)?
……
……
……
……

15. What is your current profession? If you are retired, could you please indicate your last profession before retirement?
……

16. If you have had several professions, could you indicate each one of them in chronological order?
……
……
……

17. Have you ever attended Dutch heritage classes while living in Canada?
O no
O yes, in (year) 19……..for the period of: ……..months

18. Have you ever been back to the Netherlands since leaving for Canada?
O no, never
O yes, but only occasionally
O yes, regularly: about: …….. times.

19. If you have indicated that you have been back to the Netherlands, could you please indicate what the reason or reasons for such a visit were (you may tick more than one box here)?
O because of urgent family matters (such as a wedding or a funeral)
O to visit friends and relatives
O for another reason, namely: ……..

20. Do you ever go to church in Canada?
O no, never
O yes, occasionally
O yes, regularly

21. If you have indicated you go to church, could you please indicate in which language the services are held?
……

22. In general, how would you rate your English language proficiency before you moved to Canada?
O very good
O good
O ok
O fairly poor
O very poor

23. In general, how would you rate your English language proficiency at present?
O very poor
O fairly poor
O ok
O good
O very good

24. In general, how would you rate your Dutch language proficiency before you moved to Canada?
O very good
O good
O ok
O fairly poor
O very poor

25. In general, how would you rate your Dutch language proficiency at present?
O very poor
O fairly poor
O ok
O good
O very good

26. How often do you speak Dutch?
O daily

O weekly
O monthly
O a few times a year
O less than that, namely:……..

27. Do you consider it important to maintain your Dutch?
O very important
O important
O no opinion
O fairly unimportant
O very unimportant

28. Do you consider it important that your children can speak and understand Dutch?
O very unimportant
O fairly unimportant
O no opinion
O important
O very important

29. In general, do you have more Dutch- or English-speaking friends in Canada?
O only Dutch-speaking friends
O both, but more Dutch-speaking friends
O as many Dutch- as English-speaking friends
O both, but more English-speaking friends
O only English-speaking friends

30. Do you feel more at home with Dutch or with Canadian culture?
O with Canadian culture
O with both, but more with Canadian culture
O with both cultures, equally
O with both, but more with Dutch culture
O with Dutch culture

31. Do you feel more comfortable speaking Dutch or English?
O no preference
O Dutch
O English

32. Could you elaborate on your answer: why do you feel more comfortable speaking either Dutch or English or why don't you have any preference?
……
……
……
……

33. What is your current marital status?
O married
O separated/divorced

O widow/widower
O living together unmarried
O single

34. With what language(s) was your (ex)partner brought up?
O English
O Dutch
O other, namely:……..

35. If your (ex)partner was not born in Canada, what were the reasons that he or she came to Canada?
……
……
……

36. When did your (ex)partner come to Canada (year)? 19……..

37. How did you meet?
……
……
……

38. What language or languages do you mostly use when talking to your (ex)partner?
O only Dutch
O both Dutch and English, but mostly Dutch
O both Dutch and English, without preference
O both Dutch and English, but mostly English
O only English

39. What language or languages does your (ex)partner mostly use when talking to you?
O only English
O both Dutch and English, but mostly English
O both Dutch and English, without preference
O both Dutch and English, but mostly Dutch
O only Dutch

40. What is the current profession of your (ex)partner? If your (ex)partner is retired, could you please indicate what his or her last profession before retirement was?
……

41. Do you have children?
O no
O yes, they are……..years old.

42. What language or languages do you mostly use when talking to your children?
O only Dutch
O both Dutch and English, but mostly Dutch
O both Dutch and English, without preference

O both Dutch and English, but mostly English
O only English

43. What language or languages do your children mostly use when talking to you?
O only English
O both Dutch and English, but mostly English
O both Dutch and English, without preference
O both Dutch and English, but mostly Dutch
O only Dutch

44. Do you have grandchildren?
O no
O yes, they are……..years old.

45. What language or languages do you mostly use when talking to your grandchildren?
O only Dutch
O both Dutch and English, but mostly Dutch
O both Dutch and English, without preference
O both Dutch and English, but mostly English
O only English

46. What language or languages do your grandchildren mostly use when talking to you?
O only English
O both Dutch and English, but mostly English
O both Dutch and English, without preference
O both Dutch and English, but mostly Dutch
O only Dutch

47. Do you encourage your children to speak Dutch?
O yes, occasionally
O no, never
O yes, often

48. Did your children ever follow Dutch heritage classes (Saturday classes for example)?
O no
O yes

49. Did /do you ever correct your children's Dutch?
O never
O very rarely
O sometimes
O regularly
O very often

50. If your children do not speak or understand Dutch, do you regret that?
O not at all
O not much
O no opinion

O a bit
O very much

51. Are you in frequent contact with relatives and friends in the Netherlands?
O all the time
O frequently
O sometimes
O rarely
O very rarely

52. How do you keep in touch with those relatives and friends in the Netherlands?
O telephone
O letters
O e-mail
O another way, namely: ……..

53. What language or languages do you mostly use to keep in touch with relatives and friends in the Netherlands?
O only Dutch
O both Dutch and English, but mostly Dutch
O both Dutch and English, without preference
O both Dutch and English, but mostly English
O only English

54. Do you think Dutch plays an important role in the relationship between your direct family members?
O not at all
O not much
O no opinion
O a bit
O very much

55. Have you made many new friends in Canada?
O yes
O no

56. What is the mother tongue of the majority of these people?
O Dutch
O English
O another language

57. How did you meet most of these people?
O through a Dutch club or organisation
O through a mutual friend
O through work or the children's school
O another way, namely: ……..

58. Could you please fill in those people that you are most frequently in touch with in the following table? These people can live in the Netherlands or in Canada. I wish to see through this table which language you most frequently use in your daily life: Dutch or English. You don't have to fill in the name of the person if you do not wish to. I would like to ask you, however, to provide the rest of the information asked for. One name has already been filled in as an example.

Name (optional)	**Does this person live in Canada or the Netherlands?**	**What language(s) do you use when communicating with each other?**	**How did you meet this person?**	**How long have you known this person?**	**What is your relationship with this person?**
Marjolijn Keijzer	The Nederlands	Dutch	sisters	23 years	Related (sisters)

59. Could you, in the following tables, please indicate to what extent you use Dutch (table 1) and English (table 2) in the domains provided? You may simply tick the box. If a certain domain is not applicable to you (for example, if you don't have any pets), you may leave the box empty.

I speak Dutch					
	all the time	frequently	sometimes	rarely	very rarely
With relatives					
With friends					
To pets					
At work					
In church					
In shops					
At clubs or organisations					
Other, namely:					

I speak English					
	all the time	frequently	sometimes	rarely	very rarely
With relatives					

With friends					
To pets					
At work					
In church					
In shops					
At clubs or organisations					
Other, namely:					

60. Have you ever been a member of a Dutch club or organisation in Canada?
O no
O yes, namely (name of the organisation and period of membership): ……..

61. Are you now a member of a Dutch club or organisation in Canada?
O no
O yes, namely (name organisation): ……..

62. Do you ever get homesick in the sense of missing the Netherlands?
O no
O yes, what I then miss most is/are:
……

63. Do you ever listen to Dutch songs?
O no
O yes

64. Do you ever listen to Dutch radio programmes?
O no
O yes

65. Do you ever read Dutch newspapers, books or magazines?
O no
O yes

66. Do you ever watch Dutch television programmes?
O no
O yes
O I would love to, but I can't get them

67. If you have indicated that you never listen to Dutch songs or radio programmes, nor read Dutch newspapers, books or magazines and that you don't watch Dutch television programmes, could you indicate why you think that is?
……
……
……

……

68. Do you think your Dutch language proficiency has changed since you moved to Canada?
O no
O yes, I think it has become better
O yes, I think it has become worse

69. Do you think you use more or less Dutch since you moved to Canada?
O no, I don't think I use more or less Dutch now
O yes, I think I use less Dutch
O yes, I think I use more Dutch

70. Do you ever feel uncomfortable when speaking Dutch with a Dutch person who has never spent a considerable amount of time in an English-speaking country?
O yes, sometimes
O no, never

71. If you ever do feel uncomfortable in such a situation, could you indicate whether this is also the case when you speak Dutch with someone who, like you, has lived in Canada for a long time?
O I feel just as uncomfortable then
O I feel less uncomfortable then

72. Do you see yourself as bilingual? In other words, do you think you are as proficient in Dutch as in English?
O no, because……..
O yes, because……..
O I don't know, because……..

73. Are you better at guessing a person's social position/status when they speak Dutch or English?
O Dutch, because……..
O English, because……..
O it makes no difference, because……..

74. How do you feel about Dutch people (tourists for example) who speak English with a heavy Dutch accent?
O that annoys me
O I don't have any problems with that

75. Do you ever intend to move back to the Netherlands?
O no, I don't intend to ever return to the Netherlands
O I have never really given it much thought
O yes, I would eventually like to move back to the Netherlands

76. If you have indicated that you do not intend to ever move back to the Netherlands, can you explain why you feel that way?

……
……
……

77. Looking back, do you think you have made the right decision in moving to Canada?
O yes
O no, I wouldn't do it again if I had to make the choice again, because
……
……

78. Would you mind if I were to contact your relatives in the Netherlands (preferably siblings) to interview them about life with a family member abroad? Naturally, all of this information will be treated confidentially. If you do not mind, could you please indicate the name(s) of your siblings as well as their addresses and phone numbers?
……
……
……

79. You have reached the end of this questionnaire. Is there anything you would like to add? This can be anything from language-related comments to remarks about the questionnaire or research itself.

Appendix 2c: Sociolinguistic Questionnaire for the Controls

Deze vragenlijst is bedoeld om een beeld te krijgen van het taalgebruik van Nederlanders. Het kan zijn dat niet alle vragen betrekking op u persoonlijk hebben. Als u vindt dat dit het geval is kunt u die vraag overslaan. Het is belangrijk dat u deze vragenlijst alleen invult, zonder de hulp van anderen, want het gaat om *uw* taalachtergrond. Er bestaan geen goede of foute antwoorden.

1. Wat is uw geboortedatum?
……

2. Ben u een:
O man
O vrouw

3. Waar bent u geboren?
Dorp/stad:……..
Provincie: ……..
Land: ……..

4. Vindt u dat u standaard Nederlands spreekt of een dialect?
O standaard Nederlands
O een dialect,namelijk: ……..

5. Wat is het hoogste schoolniveau dat u hebt afgerond?
O lagere school
O middelbare school, niveau: ……..
O beroepsonderwijs, namelijk: ……..
O universiteit, opleiding: ……..

6. Hebt u, behalve in Nederland, in een ander land gewoond voor een langere periode (meer dan 6 maanden?)
O nee
O ja, namelijk in: ……..voor een periode van: ……..

7. Welke taal of talen kende u voor u naar school ging?
O alleen Nederlands
O ook (een) andere taal/talen, namelijk: ……...

8. Hebt u tijdens uw schooltijd ook Engelse lessen gevolgd?
O nee
O ja, gedurende (aantal jaren): ……..

9. Welke taal of talen hebt u geleerd op school of voor uw werk?
……

10. Hebt u nog (een) andere taal/talen geleerd buiten school of uw werk om?

O nee
Oja, namelijk: ……..

11. Wat is uw huidige beroep? Indien u gepensioneerd bent, wat was dan uw laatste beroep?
……

12. Als u meerdere beroepen hebt gehad, kunt u deze dan in chronologische volgorde aangeven?
……
……
……

13. Over het algemeen genomen, hoe schat u uw Nederlandse taalvaardigheid op dit moment in?
O zeer goed
O goed
O redelijk
O tamelijk slecht
O zeer slecht

14. En uw Engelse taalvaardigheid?
O zeer slecht
O tamelijk slecht
O redelijk
O goed
O zeer goed

15. Vindt u het belangrijk om Nederlands goed te kunnen gebruiken, bijvoorbeeld om discussies te voeren of om brieven te schrijven naar instanties?
O zeer belangrijk
O belangrijk
O geen mening
O tamelijk onbelangrijk
O zeer onbelangrijk

16. Hoe belangrijk vindt u het om de Engelse taal goed te beheersen?
O zeer onbelangrijk
O tamelijk onbelangrijk
O geen mening
O belangrijk
O zeer belangrijk

17. Hebt u kinderen?
O nee
O ja

18. Vindt u het belangrijk dat uw kinderen goed Nederlands kunnen gebruiken, om bijvoorbeeld brieven te schrijven naar instanties of discussies te kunnen voeren?
O zeer onbelangrijk
O tamelijk onbelangrijk
O geen mening
O belangrijk
O zeer belangrijk

19. Corrigeert u het Nederlands van uw kinderen wel eens?
O nee, nooit
O ja, soms
O ja, vaak

20. Hoe belangrijk vindt u het dat uw kinderen goed Engels beheersen?
O zeer belangrijk
O belangrijk
O geen mening
O belangrijk
O zeer belangrijk

21. Vindt u het belangrijker dat uw kinderen goed Engels beheersen dan u zelf? Zo ja, waarom vindt u dat dan?
……
……
……

22. Hebt u soms het idee dat het Engels het Nederlands aan het verdringen is en wat vindt u hiervan?
O nee, dat idee heb ik niet
O ja, dat idee heb ik wel. Ik heb hier de volgende mening over:
……
……
……
……

23. Wat is uw huidige burgerlijke staat?
O getrouwd
O gescheiden
O weduwe/weduwnaar
O ongehuwd samenwonend
O alleenstaand

24. Welke talen spreekt/sprak uw (ex)partner?
……

25. Wat is het huidige beroep van uw (ex)partner? Indien hij of zij gepensioneerd of overleden is, kunt u dan aangeven wat zijn of haar laatste beroep was?
……

26. Denkt u dat de Nederlandse taal een belangrijk onderdeel vormt van uw identiteit?
……
……
……
……

27. Leest u veel Nederlandstalige boeken of tijdschriften?
O ja
O nee

28. Leest u wel eens Engelstalige boeken of tijdschriften?
O nee
O ja

29. Voelt u zich wel eens ongemakkelijk indien u Engels moet praten tegen iemand die Engels spreekt (bijvoorbeeld een toerist die u om de weg vraagt)?
O nee, nooit
O ja, wel eens

30. Zijn er mensen uit uw eigen omgeving recentelijk of minder recentelijk naar een Engelstalig land geëmigreerd (dus bijvoorbeeld Amerika, Canada, Australië, Nieuw-Zeeland)?
O nee
O ja

31. Wat vindt u van mensen die geëmigreerd zijn en die bij een bezoek aan Nederland met een zwaar Engels accent praten?
O daar erger ik mij aan
O geen mening
O dat vind ik geen probleem

32. Hebt u er zelf wel eens over nagedacht om te emigreren? Indien u er wel eens over hebt nagedacht, wat waren dan uw redenen om het toch niet te doen?
O nee, nooit
O ja, maar de redenen waarom ik het niet gedaan heb zijn:
……
……
……
……

Sociolinguistic Questionnaire for the Controls (English translation)

This questionnaire is intended to record the language use of Dutch people. It may be possible that not all questions apply to you. If you feel that is the case, you can skip that question and move to the next. It is important that you fill in this questionnaire by yourself, without the help of others, because we want to know about *your* language background. There are no right or wrong answers.

1. What is your date of birth?
……

2. Are you:
O male
O female

3. Where were you born:
Village/Town: ……..
County: ……..
Country: ……..

4. Would you say that you spoke a standard variety of Dutch while you lived in the Netherlands or a dialect?
O standard Dutch
O a dialect, namely: ……..

5. What is the highest level of education you have completed?
O primary school
O secondary school, level: ……..
O higher education, namely: ……..
O university, degree: ……..

6. Have you ever lived anywhere else than the Netherlands for a longer period of time (more than 6 months)?
0 no
0 yes, in: ……..for a duration of……..

7. What language(s) did you acquire before starting school?
O only Dutch
O (an)other language(s) as well, namely: ……..

8. Did you attend any English classes at school:
O no
O yes, for the duration of (number of years): ……..

9. What language or languages did you learn professionally or at school?
……

10. What language or languages did you learn outside of an educational environment (so outside of school or work)?
……
……
……

11. What is your current profession? If you are retired, could you please indicate your last profession before retirement?
……

12. If you have had several professions, could you indicate each one of them in chronological order?
……
……
……

13. In general, how would you rate your Dutch language proficiency at present?
O very poor
O fairly poor
O ok
O good
O very good

14. And your English proficiency?
0 very poor
0 fairly poor
0 ok
0 good
0 very good

15. Do you consider it important to have a good command of Dutch, for example in discussions or to write letters to various organizations?
O very important
O important
O no opinion
O fairly unimportant
O very unimportant

16. How important do you think it is to have a good command of English?
0 very unimportant
0 fairly unimportant
0 no opinion
0 important
0 very important

17. Do you have any children?
0 no
0 yes

18. Do you consider it important for your children to have a good command of Dutch, for example to write letters to various organizations or to engage in discussions?
0 very unimportant
0 fairly unimportant
0 no opinion
0 important
0 very important

19. Do you ever correct your children's Dutch?
0 no, never
0 yes, sometimes
0 yes, often

20. How important do you think it is for your children to have a good command of English?
O very important
O important
O no opinion
O fairly unimportant
O very unimportant

21. Do you consider it more important for your children to have a good command of English than yourself? If so, why?
……
……
……
……

22. Do you sometimes feel that English is encroaching on Dutch and how do you feel about this?
0 no, I don't have that feeling
0 yes, I do feel that way. My opinion about this is as follows:
……
……
……
……

23. What is your current martial status?
O married
O separated/divorced
O widow/widower
O living together unmarried
O single

24. What language or languages does/did your partner speak?
……

25. What is your partner's current profession? If he or she is retired or deceased, could you indicate what his or her last profession was?
……

26. Do you think the Dutch language forms an important part of your identity?
……

27. Do you read many Dutch books or magazines?
0 yes
0no

28. Do you ever read any English books or magazines?
0 no
0 yes

29. Do you ever feel uncomfortable when you have to speak English someone (for example a tourist asking you for directions)?
0 no, never
0 yes, sometimes

30. Have any people in your direct vicinity emigrated to an Anglophone country in the recent past (think of America, Canada, Australia, New-Zealand)?
0 no
0 yes

31. How do you feel about people who emigrated from the Netherlands and now speak Dutch with a thick English accent?
0 that annoys me
0 no opinion
0 I don't think that is a problem

32. Have you ever considered emigration yourself? If so, what were your reasons not to do it?
0 no, I never considered that
0 yes, I have considered it, but my reasons not to move were as follows:
……
……
……
……
……

Appendix 2d: Sociolinguistic Questionnaire for the Acquirers

1. Wat is je naam?
……

2. Wat is je adres?
……

3. Wat is je telefoonnummer?
……

4. Wat is je geboortedatum?
……

5. In welke klas zit je?
……

6. Op welke school zit je?
……

7. Welk schoolniveau doe je?
……

8. Kun je, behalve standaard Nederlands, ook een dialect spreken?
0 nee, alleen standaard Nederlands
0 ja, ook een dialect, namelijk:……..

9. Heb je meer dan 1 moedertaal?
0 nee, alleen Nederlands
0 ja, ik spreek ook: :……..

10. Hoe goed denk je zelf dat jouw Nederlands is?
0 heel goed
0 goed
0 redelijk
0 best slecht
0 heel slecht

11. Vind je het leuk om talen te leren op school?
0 nee, helemaal niet leuk
0 het gaat wel: ik vind het niet heel leuk, maar ook niet vervelend
0 ja, heel leuk

12. Lees je veel (dit mogen ook magazines zijn)?
0 nee
0 ja

13. Ken je zelf mensen die naar een ander land zijn verhuisd?
0 nee
0 ja, namelijk: :……..

14. Denk je dat je je moedertaal kan verliezen als je lang in een ander land woont?
……
……
……
……

Sociolinguistic Questionnaire for the Acquirers (English translation)

1. What is your name?
……

2. What is your address?
……

3. What is your phone number?
……

4. What is your data of birth?
……

5. In which grade are you?
……

6. What is the name of your school?
……

7. In which school level are you enrolled?
……

8. Apart from standard Dutch, can you speak any dialects of Dutch?
0 no, only standard Dutch
0 yes, also a dialect, namely:……..

9. Do you have more than one mother tongue?
0 no, only Dutch
0 yes, I also speak: :……..

10. How good do you think your command of Dutch is?
0 very good
0 good
0 ok
0 fairly poor
0 very poor

11. Do you like learning languages at school?
0 no, not at all
0 it's ok: I don't really enjoy it, but I don't mind either
0 yes, I greatly enjoy it

12. Do you read much (this can also include magazines)?
0 no
0 yes

13. Do you know any people who migrated to another country?
0 no
0 yes, to: :……..

14. Do you think it is possible to lose your first language if you have lived in another country for a long time?
……
……
……
……

Appendix 3a: Scene-by-scene description of the film excerpt from Charlie Chaplin's *Modern Times,* used to elicit free spoken data

Prior to the film excerpt used for retelling purposes, Charlie Chaplin has been released from prison and has been given a letter of recommendation by the Sheriff.

1. Charlie takes the letter to a ship yard, where he is instantly offered a job.

2. His task is to find a wig to support a ship under construction.

3. He finds the wig, but fails to see that it already supports another ship under construction.

4. He takes out the wig, causing the ship to be launched.

5. All the workers stare at him and before they can say anything, Charlie walks away himself, assuming he is fired.

6. The film now shows a barefooted girl standing in front of a bakery shop, obviously hungry.

7. She sees a man taking out bakery goods from the back of a delivery van and inside the shop.

8. When the man is inside, she grabs a French stick and runs away with it.

9. A wealthy-looking woman has seen this and tells the baker when he emerges from the shop.

10. The girl, meanwhile, has run away with the bread and has walked into Charlie, causing them both to fall on the ground.

11. A police officer also appears on the spot and the baker points to the girl as having stolen the French stick.

12. In all the confusion, Charlie is now the one holding the bread and is determined to return to prison. He therefore says he has stolen the French stick and not the girl.

13. The police officer arrests Charlie and the girl is left on the ground, confused.

14. The female witness of the crime notifies the baker that it was not Charlie, but the girl who had stolen the bread.

15. The baker runs after the police officer holding Charlie and informs him of this fact.

16. The baker releases Charlie and walks away with the baker.

17. Still determined to return to prison, Charlie enters a cafeteria and orders two large plates of food.

18. He then sits down and eats everything.

19. When he is finished, he takes his receipt and walks towards the counter.

20. He spots another police officer walking by the window and beckons him in.

21. He then relates how he has eaten two plates of food, but cannot pay and asks the police officer to pick up the bill.

22. After some commotion, no one pays the bill and Charlie is arrested again.

23. While the police officer makes a phone call to arrange for a paddy wagon to pick Charlie up, Charlie walks up to a news stand.

24. He is attached to the officer through handcuffs, but the owner of the news stand cannot see this and happily sells him a cigar and watches Charlie give cigars and chocolates to two passing children.

25. The police officer appears again and takes away his cigar, leaving the news stand owner confused and angry.

26. The paddy wagon arrives and Charlie is put inside.

27. The paddy wagon is already full of other people, some of whom smell quite badly.

28. The vehicle stops again and the girl of the bread incident steps in.

29. Charlie immediately recognizes her and offers her his seat, asking if she remembers him from the French stick indident.

30. The girl nods and breaks down crying, and Charlie offers her his handkerchief.

31. The girl walks to the back of the paddy wagon and starts talking to the police officer standing there, closely followed by Charlie.

32. The paddy wagon has to dodge another car and leans to one side, causing the police officer, the girl and Charlie to fall out on the street.

33. All three are unconscious, but Charlie is the first one to come to his senses.

34. He wakes up the girl, motioning her to escape, as the officer is still unconscious.

35. In the meantime, the police officer wakes up, but is knocked out again by Charlie, using the officer's own cane.

36. The girl runs away, but stops at the corner and beckons Charlie to come with her.

37. Charlie hesitates, but then follows her.

38. Charlie and the girl are walking in a wealthy suburban area and sit down in the grass in front of a nice house.

39. Charlie asks the girl where she lives and she answers that she does not have a home.

40. They watch a man come out of the house behind them, obviously an office worker, and his wife sees him off.

41. The wife looks very happy and dances back into the house after waving to her husband.

42. Charlie and the girl then start daydreaming and see themselves living in the house behind them.

43. Charlie comes home after work and is greeted by the girl, then his wife, in an apron.

44. He picks some fruit hanging from a tree right outside the window, but is called to the dinner table and throws it out again.

45. The girl is preparing a big piece of meat and Charlie takes a jug and walks to the back door.

46. He then summons a cow that spontaneously deposits milk in the jug and walks off again.

47. Charlie and the girl then sit down for dinner.

48. They wake up again and are still sitting on the grass.

49. Charlie asks the girl if she would like to live in a little house like that and when she says yes, Charlie says that he is willing to work for it.

50. Their dream comes to an abrupt ending when they spot a police officer standing right behind them.

51. They get up and simply walk away, ending the film excerpt.

Appendix 3b: Example of a CHAT-formatted transcript of free spoken data

@Begin
@Languages: nl (1), en (2)
@Participants: BUR Subject, MCK Merel_Keijzer Investigator
@ID:nl|keijzerattrition|BUR|||||Subject||
@Sex of BUR: female
@Location: BURs home, Lucan, Ontario, Canada
@Comment: 2:37 minutes retelling time
@Coder:Merel Keijzer
*MCK: probeert u maar .
*MCK: gaat u gang.
*BUR: ok .
*BUR: Charlie Chaplin komt net uit de gevangenis .
*BUR: en hij < gaat een > [//] vraagt om een baan .
*BUR: in een # bootfabriek.
*BUR: en uh@fp hij moet een uh@fp < wedge > [*] vinden .
%err: 0.? CS.
*BUR: ha daar ga ik al &=laugh .
*MCK: oh # .
*MCK: dat is prima.
*BUR: en hij uh@fp door [x 2] het uh@fp # +...
*BUR: oh jongens .
*BUR: omdat ie [: hij] de [x 2] < main # wedge > [*] uit het uh@fp uh@fp gebouw haalt gaat de boot weg .
%err: 0.? CS.
*BUR: en hij wordt gelijk ontslagen .
*BUR: en < als ie [: hij] dan buiten komt daar is een een < girl > [*] > [*] .
%err: 0.? CS, 7.3 subordinate.
*BUR: die erg veel honger heeft .
*BUR: en die steelt wat brood uit een broodtruck.
*BUR: truck.
*BUR: vrachtwagen .
*BUR: broodwagen .
*BUR: en # < hij > [//] # ze worden allebei gegrepen door de politieagent .
*BUR: < but > [*] maar hij zegt tegen de politieagent ik heb het gedaan .
%err: 0.? CS.
*BUR: en zij mag dus vrij .
*BUR: maar d'r [: er] was een mevrouw die het gezien < heeft > [*] .
%err: 4.4 tense.
*BUR: en die zegt nee [x 2] .
*BUR: < het was > [/] # het was de juffrouw die dat gedaan had .
*BUR: en ze < komen door elkaar > [*] # .
%err: marked construction.
*BUR: uiteindelijk komen ze met elk(aar) samen in een uh@fp politiewagen te zitten .
*BUR: waar d'r [: er] < looked like > [*] iemand < van > [*] Italie zit .

%err: preposition: van = uit, 0.? CS.
*BUR: die erg veel # boeren laat &=laugh .
*BUR: die niet zo erg goed ruiken &=laugh .
*BUR: en uh@fp < de > [//] <als > [//] de politiewagen die maakt een scherpe bocht .
*BUR: en < die > [//] zij vallen eruit met de politieagent .
*BUR: Charlie Chaplin en < this lady > [*] .
%err: 0.? CS.
*BUR: < this > [*] deze mevrouw .
%err: 0.? CS.
*BUR: juffrouw .
*BUR: en uh@fp # even kijken hoor # .
*BUR: Charlie is degene die het eerste wakker wordt .
*BUR: van zijn uh@fp val .
*BUR: en dan < waakt > [//] maakt ie [: hij] het meisje wakker .
*BUR: met en de politieagent < wordt bij > [//] wordt dan ook wakker .
*BUR: maar die wordt weer bewusteloos geslagen door Charlie .
*BUR: en ze rennen < allen > [//] met z(ij)n tweeen < off > [*] naar een +...
%err: 0.? CS.
*BUR: ze ontsnappen dus .
*BUR: en komen terecht ergens # voor een klein huisje .
*BUR: waar het net lijkt alsof ze aan (he)t picknicken zijn .
*BUR: maar ze hebben natuurlijk helemaal geen eten .
*BUR: en uh@fp man en vrouw zeggen elkaar erg hartelijk vaarwel voor de &=laugh +...
*BUR: op [x 2] weg naar (he)t werk .
*BUR: en uh@fp dan proberen zij te denken of < wat > [*] het zou zijn als zij samen in zo (ee)n huisje woonden .
%err: wat = hoe.
*BUR: maar uiteindelijk besloten ze dat het toch waarschijnlijk < niet erg > [//] niet veel voor xxx zou zijn .
*BUR: dus dat is het &=laugh .
*MCK: ja dat was het .
*MCK: dankuwel .
@End

Appendix 4a: Dutch C-test[80]

U krijgt zo meteen 5 korte tekstjes aangeboden. In de teksten zitten gaten. Er zijn nooit hele woorden weggelaten, maar steeds delen van woorden. Het is de bedoeling dat u uit het zinsverband probeert af te leiden wat er op de puntjes zou kunnen staan. Er zijn vaak meerdere mogelijkheden, dus een antwoord is niet goed of fout. U hoeft dus nooit hele woorden in te vullen, maar u wordt steeds gevraagd woorden af te maken. De eerste zin is steeds helemaal intact gelaten om u een beetje op weg te helpen. Mocht u er even niet uitkomen, dan kunt u dat woorddeel open laten en verder gaan met een woorddeel dat u wel kunt invullen. Om dit onderdeel niet te lang te laten duren, hebt u maximaal 5 minuten de tijd per tekst.

'In this next task, you will be offered 5 small texts. The texts are gapped. It is never the case that whole words have been deleted, but only parts of words. The aim is for you to infer from the context what should be inserted on the dotted lines. There are often several possibilities, so there are no right or wrong answers. In other words, you never have to fill in whole words, but you are only asked to finish words. The first sentence is always left intact to help you on your way. Should you not know what to fill in, you can leave that part open and continue with the word you do know. To prevent this test from taking up too much time, you have a maximum of 5 minutes to complete each text.'

1.
Ik houd van Nederland en niet zo'n beetje ook. Waarom ik van het land houd is niet alleen omdat velen van wie ik houd hier leven. Nee, het is me (1)……..dan d (2)…… De groo (3)……..reden v (4)……..mijn lie (5)……..voor het land ko (6)……..voort u (7)……..het feit dat al (8)……..zo geor (9)……..en syste (10)……..is. Er i (11)……..een systeem e (12)…….. het wer (13)…….... Je kan, ni (14)……..zonder twi (15)……..., maar to (16)……..met dic (17)……..ogen er (18)……..uitgaan d (19)……..het recht zege (20)…….....

2.
Als je reist hebt je de kans om te zijn wie je wilt zijn óf degene die je echt bent. Dat komt om (21)……..niemand een ste (22)……..op je dr (23)……... Toen ik n (24)…….. het rei (25)……..in Nederland teru (26)……..., werd ik hele (27)……..gek. A (28)……..na vier dagen. A (29)……..ik z (30)……..dat men (31)…….. zich opwo (32)……..over een honde (33)……..op de st (34)……., werd ik pan (35)……... Dan da (36)……..ik, mens, waar ma (37)……..je je dr

[80] The Dutch C-texts are not translated into English, as it is close to impossible to literally translate the texts while at the same time indicating which words have been gapped. For an example of the principle of the C-test, Appendix 4b contains the English C-test that was also included in the test battery for the attriters.

(38)……..over? Ik ben ge (39)……..naar de psycholoog ges (40)……., want ik trok dat echt niet.

3.
Openlijke narcisten zijn mensen met een opgeblazen gevoel over zichzelf. Ze Ei (41)……..vaak ande (42)……..aandacht o (43)……..en ko (44)……..charmant ov (45)……., ond (46)……..het feit d (47)……..ze wei (48)……..besef he (49)……..van de beho (50)……..van anderen. Verb (51)……..narcisten zijn weli (52)……..net z (53)……..hevig met zichzelf be (54)……..en ev (55)…….. arrogant a (56)……..openlijke narcisten, ma (57)……..ze do (58)……..dit o (59)……..een subti (60)……..manier.

4.
Het international perscentrum Nieuwspoort discussieert weer eens over de code. De Haagse soci (61)……..waar h (62)……..journaille en de poli (63)……..in een onged (64)……..samenzijn verk (65)……., hanteert si (66)……..jaar en d (67)……..de ongesc (68)……..regel d (69)……..wat er t (70)…….. plekke gez (71)……..wordt ni (72)……..naar bui (73)……..mag ko (74)……... Alt (75)……., niet her (76)……..mag worden tot de betre (77)……..persoon en pla (78)…… Voorzitter van het bestuur van Nieuwspoort Max de Bok maa (79)……..onlangs pla (80)……..voor Casper Becx, maar het beleid bleef ongewijzigd.

5.
Prins Claus was een intellectuele gentleman. Voor zijn echtgenote koningin werd had hij een serieuze baan in de ontwikkelingshulp. Na 1980 voe (81)……..hij zich ste (82)……..meer een orna (83)……..van de tr (84)……... Hij raa (85)……..depressief, ge (86)……., maar we (87)……..nooit meer de ou (88)……... De la (89)……..van een onve (90)……..bestaan a (91)……..prins-gemaal le (92)……..op Claus een gr (93)……..druk, g (94)……..hem het gev (95)……..een ha (96)……..marionet te zijn, een man die acht 97)……..veel lie (98)……..een zelfst (99)……..positie had gehad dan een afge (100)……...

Text 1:
1) meer; 2) dat; 3) grootste; 4) van; 5) liefde; 6) komt; 7) uit; 8) alles; 9) georganiseerd; 10) systematisch; 11) is; 12) en; 13) werkt; 14) niet; 15) twijfel; 16) toch; 17) dichte; 18) ervan; 19) dat; 20) zegeviert;
Text 2:

21) omdat; 22) stempel; 23) drukt; 24) na; 25) reizen; 26) terugkwam; 27) helemaal; 28) al; 29) als; 30) zag; 31) mensen; 32) opwonden; 33) hondendrol; 34) stoep; 35) panisch; 36) dacht; 37) maak; 38) druk; 39) gelijk; 40) gestapt;

Text 3:

41) eisen; 42) andermans; 43) op; 44) komen; 45) over; 46) ondanks; 47) dat; 48) weinig; 49) hebben; 50) behoeften; 51) verborgen; 52) weliswaar; 53) zo; 54) bezig; 55) even; 56) als; 57) maar; 58) doen; 59) op; 60) subtielere;

Text 4:

61) sociëteit; 62) het; 63) politiek; 64) ongedwongen; 65) verkeren; 66) sinds; 67) dag; 68) ongeschreven; 69) dat; 70) ter; 71) gezegd; 72) niet; 73) buiten; 74) komen; 75) althans; 76) herleid; 77) betreffende; 78) plaats; 79) maakte; 80) plaats;

Text 5:

81) voelde; 82) steeds; 83) ornament; 84) troon; 85) raakte; 86) genas; 87) werd; 88) oude; 89) last; 90) onvervuld; 91) als; 92) legde; 93) grote; 94) gaf; 95) gevoel; 96) halve; 97) achteraf; 98) liever; 99) zelfstandige; 100) afgeleide.

Appendix 4b: English C-test

On the next pages you find 5 small English texts. Each text contains gaps, but rather than whole words having been deleted, parts of words have been left out. Please try to fill in the gaps. The first sentence has been left intact in each text to make things easier for you. You have a maximum of 5 minutes per text.

1.
We all live with other people's expectations of us. These are a refl (1) …….. of th (2) ……..trying to under (3) ……..us; th (4) ……..are predict (5) ……..of wh (6) ……..they th (7) ……..we will think; d (8) ……..and feel. Gene (9) ……., we acc (10) ……..the sta (11) ……..quo, but these expec (12) ……..can be ha (13) ……..to han (14) ……..when they co (15) ……..from our fami (16) ……..and can be diff (17) ……..to ign (18) ……., especially wh (19) …….. they come from our (20) ……..

2.
Founded in 1878 by Bisshop Isaac Hellmuth and the Anglican Diocese of Huron as "The Western University of London Ontario", Western is one of Canada's oldest and best universities. The fi (21) ……..students grad (22) …….. in ar (23) ……..and medi (24) ……..in 1883. To (25) ……..,The University of Western Ontario is a vib (26)……..centre of lear (27)……..with 1,164 ac (28)……..members and alm (29)……..29,000 underg (30)……..and graduate stud (31) ……..Through i (32) ……..12 Fac (33) ……..and Sch (34) ……., and three affi (35) ……..Colleges, the University off (36) ……..more th (37) ……..60 diffe (38) ……..degree and dip (39) ……..programs to London's comm. (40) ……..

3.
The BBC's core purpose is broadcasting. Since the lau (41) ……..of Radio Times in 1923 it h (42) ……..also eng (43) ……..in comme (44) ……..activities. If pur (45) ……..properly, su (46) ……..commercial activities he (47) ……..to rea (48) ……..the va (49) ……..of lic (50) ……..payers' ass (51) ……..and gene (52) ……..income to be plou (53) ……..back in (54) ……..the public ser (55) ……..programming. Th (56) …….commercial Policy Guidelines sp (57) ……..out the frame (58) ……..which ens (59) ……..that the BBC's commercial activities supp (60) ……..its public purpose.

4.
The decision to remove soft drinks from elementary and junior high school vending machines is a step in the right direction to help children make better choices when it

comes to what they eat and drink. Childhood obe (61) ……..has bec (62) ……..a ser (63) ……..problem in th (64) ……..country a (65) ……..children cons (66) ……..more sugar-based fo (67) ……..and sp (68) ……..less ti (69) ……..getting the nece (70) ……..exercise. Many par (71) ……..have quest (72) ……..schools' deci (73) ……..to al (74) ……..vending machines which disp (75) ……..candy and so (76) ……..drinks. Many schools, th (77) ……., have co (78) ……..to re (79) ……..on the mo (80) ……..these machines generate through agreements with the companies which make soft drinks and junk food.

5.
In the last federal election, 61% of eligible voters cast a ballot. That's a fright (81) ……..lack of inte (82) ……..by the elect (83) ……., but is not (84) ……..compared to the turn (85) ……..in provi (86) ……..and munic (87) ……..elections, which s (88) ……..even lo (89) ……..turnouts. It's diff (90) ……..to bel (91) ……..there's so lit (92) ……..interest in elections. In Canada, we're fort (93) ……..to have pol (94) ……..stations wi (95) ……..a short wa (96) ……..or dr (97) ……... There are volun (98) ……..more th (99) ……..willing to pro (100) ……..rides to someone unable to walk or who doesn't have a car.

Text 1:
1) reflection; 2) them; 3) understand; 4) they; 5) predictions; 6) what; 7) think; 8) do; 9) generally; 10) accept; 11) status; 12) expectations; 13) hard; 14) handle; 15) come; 16) family; 17) difficult; 18) ignore; 19) when; 20) parents;
Text 2:
21) first; 22) graduated; 23) arts; 24) medicine; 25) today; 26) vibrant; 27) learning; 28) faculty; 29) almost; 30) undergraduate; 31) students; 32) its; 33) faculties; 34) schools; 35) affiliated; 36) offers; 37) than; 38) different; 39) diploma; 40) community;
Text 3:
41) launch; 42) has; 43) engaged; 44) commercial; 45) pursued; 46) such; 47) help; 48) realize; 49) value; 50) licence; 51) assets; 52) generate; 53) ploughed; 54) into; 55) service; 56) these; 57) set; 58) framework; 59) ensures; 60) support;
Text 4:
61) obesity; 62) become; 63) serious; 64) this; 65) as; 66) consume; 67) food(s); 68) spend; 69) time; 70) necessary; 71) parents; 72) questioned; 73) decisions; 74) allow; 75) dispense; 76) soft; 77) though; 78) come; 79) rely; 80) money;
Text 5:
81) frightening; 82) interest; 83) electorate; 84) nothing; 85) turnouts; 86) provincial; 87) municipal; 88) see; 89) lower; 90) difficult; 91) believe; 92) little; 93) fortunate; 94) polling; 95) within; 96) walk; 97) drive; 98) volunteers; 99) than; 100) provide.

Appendix 5a: Noun Phrase Part of the Wug Test

Hieronder ziet u steeds een zin staan, maar deze zinnen zijn niet af. Het is de bedoeling dat u de lege plekken invult. In de meeste gevallen is uit de context af te leiden wat u in moet vullen. Hieronder zijn ook nog een aantal voorbeelden gegeven. De meeste woorden die u zo gaat tegenkomen bestaan niet echt in het Nederlands, maar het hadden qua vorm wel echte woorden kunnen zijn. Het is de bedoeling dat u net doet alsof het echte woorden zijn, al betekenen ze niets. Het gaat hier om intuïties en dus wil ik u vragen om zo snel mogelijk een antwoord op te schrijven. Omdat het om onzinwoorden gaat, bestaan er geen goede of foute antwoorden. Ik zou u graag willen vragen om de zinnen hardop voor te lezen terwijl u het invult.

'In the next task you will be presented with sentences, but these sentences are not complete. The aim is for you to fill in the blanks. In most cases the context can tell you what to fill in on the dotted lines. Most of the words you will see do not really exist in Dutch, but could have existed with respect to their form. We would like you to treat these words as if they were real items, even though they do not mean anything to you. The key of this exercise is intuition and I would therefore like to ask you to write down your answer as soon as possible. Because this task contains nonsense words, there are no right or wrong answers. I would like to ask you to read the sentences out loud as you complete the task.'

Voorbeelden ('Examples')[81]:
Je hebt een jongen, maar als het er twee zijn, heb je twee…….(jongens)
'You can have a boy, but if there are two, you have two…….(boys)'

Je hebt een deur, maar als het klein is, heb je een klein……(deurtje)
'You can have a door, but if it's a small one you have a small…….(door)'

Iemand die veel rent noem je ook wel een……(renner)
'Someone who runs a lot can be called a…….(runner)'

Als een vrouw mooi is, is het een……(mooie) vrouw
If a woman is beautiful she can be called a…….(beautiful) woman'

Je kunt een hond hebben, maar ook (de/het)…..(de) hond van de buren
'You can have a dog, but also…….(the[82]) dog of the neighbors'

1. Je hebt een **vogel**, maar als het er twee zijn, heb je twee……..…….

2. Je hebt een **peel**, maar als het een kleintje is, heb je een klein……..…….

[81] As the format of the sentences remains the same throughout the noun phrase part of the wug test, only the example sentences have been translated into English.
[82] As English does not have a binary choice between two definite articles, it is hard to translate those sentences of the wug test that elicited article selection.

3. Iemand die veel **dremt**, noem je ook wel een……..…….

4. Een vrouw die veel **zwemt**, noem je ook wel een……..…….

5. Je hebt een **trag,** maar als het er twee zijn, heb je twee……..…….

6. Je kunt een **huis** hebben, maar ook <de/het>……..…….huis dat al tijden onbewoond is

7. Je hebt een **megleid,** maar als het er twee zijn, heb je twee……..…….

8. Een soldaat die **dapper** is, krijg soms de titel "een……..…….
soldaat"

9. Je hebt een **lor,** maar als het klein is, heb je een klein……..…….

10. Iemand die veel **wandelt**, noem je ook wel een……..…….

10. Je hebt een **trag**, maar als het er twee zijn, heb je twee……..…….

11. Je kunt een **leinde** hebben, maar ook <de/het>……..…….leinde van ons

12. Jan is een **bruuske** chauffeur, maar Kees is de <bruusk>……..…….
chauffeur van allemaal

13. Een vrouw die veel **regelt**, noem je ook wel een ……..…….

14. Als een traject **tepaald** is, is het een……..…….traject.

15. Je kunt een **torde** hebben, maar ook <de/het>……..…….torde van de buren

16. Je hebt een **mende**, maar als het er twee zijn, heb je twee……..…….

17. Je hebt een **zot**, maar als het maar een kleintje is, heb je een klein……..…….

18. Als het niet zo goed met je gaat, kun je gaan praten met de <maatschappelijk>……..…….werkers.

19. Je kunt een **vraag** hebben, maar ook <de/het>……..…….
vraag die ik net gesteld heb

20. Toneel dat **freschillend** is, noem je ook wel……..……. toneel

21. je hebt een **koe,** maar als die klein is, heb je een klein……..…….

22. Je hebt een **ninden,** maar als het er twee zijn, heb je twee……..…….

23. Je kunt een **mannetje** hebben, maar ook <de/het>…….…….mannetje uit de straat

24. Iemand die veel **noert**, noem je ook wel een…….…….

25. Een huis kan **duur** zijn, maar nog…….…….als het meer geld kost

26. Je hebt een **cyclaam,** maar als het maar een kleintje is, heb je een klein…….…….

27. Je hebt een **zalink**, maar als het maar een kleintje is, heb je een klein…….…….

28. Je kunt een **heertje** hebben, maar ook <de/het>…….…….heertje waar ik over sprak

29. Deze chocola is **belicaat,** maar die jij daar hebt is het <belicaat>…….…….van allemaal

30. Je hebt een **boot**, maar als het er twee zijn, heb je twee…….…….

31. Je hebt een **zoog,** maar als het maar een kleintje is, heb je een klein…….…….

32. Iemand die veel **lindert**, noem je ook wel een…….…….

33. Een burgemeester die **gaarneemt**, is een…….…….burgemeester

34. Je kunt een **bleur** hebben, maar ook <de/het>…….…….bleur waar ik over sprak

35. je hebt een **ra**, maar als het er twee zijn, heb je twee…….…….

36. Je hebt een **mui**, maar als het maar een kleintje is, heb je een klein…….…….

37. Een vrouw die veel **moert**, noem je ook wel een…….…….

38. Als een overschot **blottelijk** is, is het een…….…….overschot

39. Je kunt een **froment** hebben, maar ook <de/het>…….…….froment waar we op hebben gewacht

40. je hebt een **keps**, maar als het er twee zijn, heb je twee…….…….

41. Je hebt een **jongen**, maar als hij klein is, heb je een klein…….…….

42. Iemand die veel **noomt**, noem je ook wel een…….…….

43. Je hebt een **draam**, maar als het maar een kleintje is, heb je een klein……..…….

44. Als een veldheer **bekwaam** is, is het een……..…….veldheer

45. Je kunt een **degin** hebben, maar ook <de/het>……..…….degin waar ik mee bezig ben

46. Je kunt een **joep** hebben, maar ook <de/het>……..…….joep waar mijn vader van houdt

47. Je hebt een **glik**, maar als het er twee zijn, heb je twee……..…….

48. Iemand die veel **frindelt**, noem je ook wel een……..…….

49. Je hebt een **don**, maar als het maar een kleintje is, heb je een klein……..…….

50. Als een ziekenhuis **academisch** is, is het een……..…….ziekenhuis

51. Je hebt **hoofden**, maar ook <de/het>……..…….hoofden van mensen die ik ken

52. Je hebt een **groffel**, maar als het er twee zijn, heb je twee……..…….

53. Je hebt **schoonheid**, maar als je er meerdere hebt, heb je meerdere……..…….

54. Een vrouw die veel **mift**, noem je ook wel een……..…….

55. Je hebt een **tor,** maar als het maar een kleintje is, heb je een klein……..…….

56. Een vrouw die veel **gardert**, noem je ook wel een……..…….

57. Je hebt **stukken**, maar ook <de/het>……..…….stukken van Mozart

58. Je hebt een spade, maar als het er twee zijn, heb je twee……..…….

59. Je hebt een **koning**, maar als het maar een kleintje is, heb je een……..…….

60. Iemand die veel **smakt,** noem je ook wel een……..…….

61. Als een auto **bepaald** is, is het een……..…….auto

62. Je hebt een **zaantal**, maar ook <de/het>……..…….zaantal van mijn moeder

63. Je hebt een **kaars**, maar als het er twee zijn, heb je twee……..…….

64. Iemand die veel **menkert**, noem je ook wel een……..…….

65. Als jouw buren **gander** zijn, heb jij……..…….buren

66. Je hebt een **vlieger**, maar als het er twee zijn, heb je twee……..…….

67. Een vrouw die veel **wimpelt**, noem je ook wel een……..…….

68. Een huis kan **gruizelig** zijn, maar nog……..…….als het erger is

69. Je hebt een **kreek**, maar ook <de/het>……..…….kreek van mijn vriendin

70. Je hebt een **gelang**, maar als het maar een kleintje is, heb je een klein……..…….

Appendix 5b: Verb Phrase part of the Wug Test

U krijgt zo weer een aantal zinnen voorgelegd. U wordt gevraagd om deze af te maken. Uit de context is weer af te leiden wat er ingevuld zou kunnen worden. Deze keer gaat het om werkwoorden en ook deze keer zijn er een paar werkwoorden bij die niet echt bestaan. Behandelt u deze werkwoorden alsof het echt bestaande werkwoorden zijn. Ik zou u willen vragen om hardop de zinnen voor te lezen en aan te vullen, voordat u uw antwoord invult. Het gaat om intuïties en dus om snelle reacties. U krijgt nu eerst een voorbeeld.

'In a minute you will again be presented with a number of sentences and will be asked to complete these. Once again, you can infer from the context what should be filled in on the dotted lines. This time, however, the words are verbs and once more a number of words do not really exist in Dutch. Please treat these verbs as if they were real, existing verbs. I would like to ask you to read the sentences out loud and complete them orally, before writing down your answer. The key component here is intuition and fast responses are therefore preferred. You will first be presented with an example.'

Voorbeeld ('Example')[83]:
Als bouwen een woord is, dan kan ik zeggen dat jullie op dit moment een huis…….. (bouwen)

'If build is a word, I could say that you-PL are…….. (build) a house right now'

1. Als **mogen** een woord is, dan kan ik vragen……..jij nu weggaan van je moeder?
'if **may** is a word, then I can ask……..you have permission from your mother to go now'

2. Ze **rewegen,** maar als ze het gisteren deden, dan……..zij gisteren.
'they **rewegen,** but if they did this yesterday, then they……..yesterday'

3. Zij **mezoeken**, maar als ze al klaar zijn, dan hebben zij……..
'they **mezoeken,** but if they are already finished, then they have……..'

4. De sneeuwpop smelt, maar als het al is gebeurd, dan……..de sneeuwpop gesmolten.
'they snowman is melting, but if it has already happened, then the snowman……..melted'

5. Jullie **riggen**, maar als het nog moet gebeuren, dan……..

[83] The English translations of the sentences that elicited verbal morphology are restricted to five sentences, one for each verb phrase morphological aspect under investigation (see Chapter 4), as the format of the sentences remains the same throughout the whole test. Only the (nonsense) verbs are different.

'you-PL **riggen,** but if it still has to happen, then……..

6. Als **moeken** een woord is, dan kan ik zeggen dat jij nu……..

7. Jullie **randelen**, maar als jullie het gisteren deden, dan……..jullie gisteren

8. Ik **das**, maar als ik al klaar ben, dan heb ik……..

9. De boot zinkt, maar als het al is gebeurd, dan ……..de boot gezonken.

10. Jullie **siezelen**, maar als het nog moet gebeuren, dan……..

11. Als **degen** een woord is, dan kan ik zeggen dat wij nu……..

12. Jullie **rebrengen** die spullen, maar als jullie al klaar zijn, dan hebben jullie die spullen……..

13. Jij **vertelt** een verhaal, maar als je het gisteren deed, dan……..jij gisteren een verhaal.

14. Jullie maken iets, maar als het al is gebeurd, dan ……..jullie iets gemaakt.

15. Ik **lertel** iets, maar als het nog moet gebeuren, dan……..

16. Als **sturen** een woord is, dan kan ik zeggen dat jij nu een brief……..

17. Ik **legga**, maar als ik het gisteren deed, dan……..ik gisteren.

18. Wij wandelen, maar als het al is gebeurd, dan……..wij gewandeld.

19. Wij **bappen**, maar als het nog moet gebeuren, dan……..

20. Jij **bakt**, maar als je klaar bent, dan heb jij……..

21. Als **kunnen** een woord is, dan kan ik zeggen dat jullie nu……..komen.

22. Jij **komt**, maar als je het gisteren, dan……..jij gisteren.

23. Zij rennen, maar als het al is gebeurd, dan……..zij gerend.

24. Jij **dapt**, maar als het nog moet gebeuren, dan……..

25. Wij **maken** iets, maar als we al klaar zijn, dan hebben we iets……..

26. Als **woeren** een woord is, dan kan ik zeggen dat wij nu……..

27. Ik **vruk**, maar als ik het gisteren deed, dan…….. ik gisteren.

28. Jullie **melen**, maar als jullie al klaar zijn, dan hebben jullie……..

29. Ik **breng** jullie, maar als het nog moet gebeuren, dan ……..

30. Hij draagt een last, maar als het al is gebeurd, dan…….. hij een last gedragen.

31. Als **goken** een woord is, dan kan ik zeggen dat jij nu……..

32. Wij **denken** aan iets, maar als we het gisteren deden, dan……..wij gisteren aan iets.

33. Jij **bevindt** je ergens, maar als je daar nu niet meer bent, dan heb je je daar……..

34. Jij **bouw**t, maar als het nog moet gebeuren, dan ……..

35. Wij wegen, maar als het al is gebeurd, dan……..wij gewogen.

36. Als **nassen** een woord is, dan kan ik zeggen dat jullie nu……..

37. Wij **verhuizen**, maar als we het gisteren deden, dan……..wij gisteren.

38. Wij **vinden** een schat, maar als we al klaar zijn, dan hebben we een schat……..

39. Hij **gruzzelt**, maar als het nog moet gebeuren, dan……..

40. Mijn broers vliegtuig kan elk moment aankomen, maar als het al is gebeurd, dan……..hij al geland.

41. Als **helpen** een woord is, dan kan ik zeggen dat wij nu……..

42. Jullie **nelpen**, maar als jullie het gisteren deden, dan……..jullie gisteren.

43. Ik **mespring**, maar als ik al klaar ben, dan heb ik……..

44. Hij **foopt**, maar als het nog moet gebeuren, dan……..

45. Mijn ouders **sturen** ons, maar als het al is gebeurd, dan……..wij gestuurd.

46. Als **menden** een woord is, dan kan ik vragen……..jij nu?

47. Zij **megen**, maar als ze het gisteren deden, dan……..zij gisteren.

48. Zij **pappen**, maar als ze al klaar zijn, dan hebben zij……..

49. Wij **penken**, maar als het nog moet gebeuren, dan……..

50. Wij **beginnen** met de klus, maar als het al is gebeurd, dan……..wij al begonnen.

Appendix 6: Grammaticality Judgment Task

Hieronder volgt een column van de Turks-Nederlandse schrijfster Nilgün Yerli. Yerli houdt zich bezig met het verwoorden van haar observaties van de Nederlandse cultuur. Het volgende fragment komt uit haar column *Partijdig,* waarin ze haar belevenis van voetbal weergeeft. De column is opgedeeld in losse zinnen. In een paar van deze zinnen zijn één of meerdere grammaticale fouten aangebracht. Andere zinnen zijn weer helemaal foutloos. Ik lees zo eerst hardop elke zin aan u voor. U kunt tegelijkertijd meelezen. Daarna wordt u per zin gevraagd aan te geven of de zin volgens u goed of fout is. U kunt ook kiezen voor de optie *ik weet het niet.* Het gaat hier om intuïties en dus zou ik u willen vragen zo snel mogelijk antwoord te geven. Als u denkt dat de zin fout is, wordt u tenslotte gevraagd om de zin te verbeteren. Het is belangrijk dat u kijkt naar de vorm van de zin, de inhoud ervan is niet belangrijk. Het gaat er dus om hoe het gezegd wordt, niet om wat er gezegd wordt. U hoeft ook niet op leestekens te letten.

'What now follows is a column from the Turkish-Dutch writer Nilgün Yerli. She spends her time writing about Dutch culture. The next fragment has been taken from her column *Partial,* in which she gives her view on football. The column has been divided into individual sentences. In a few of these, one or more grammatical mistakes have been created. Other sentences are completely correct. In a minute, I will first read each sentence to you. You can read along at the same time. After that, you are asked to indicate, per sentence, whether you think it is correct or incorrect. You can also select the option *I don't know*. The key here is intuitions and I would therefore like to ask you to give your judgment as soon as possible. If you think a sentence is incorrect, you are also asked to change the sentence. It is important that you look at the form of the sentence, its meaning is not important. In other words, it is how something is formulated, not what is said that matters. You do not have to pay any attention to punctuation either'.

1. Mijn vader heeft mij altijd geleerd om partij te kiezen bij voetbalwedstrijden
   My father have-3SG me always teach-PTCP to side to choose-INF at football matches
   'My father has always taught me to pick a side at football matches'
O Incorrect, het moet zijn ('incorrect, it should be')[84]:…….
O Ik weet het niet ('I don't know')
O Correct ('correct')

2. Toen moest Nederland voetballen tegen Turkije
   Then must-PST Netherlands football-INF against Turkey
   'Then the Netherlands had to play against Turkey'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

[84] Because the three options to choose from remain the same throughout the grammaticality judgment task, they have only been translated into English for the first judgment.

3. Ik vond het raar dat ik geen begrip meer kon opbrengen voor mijn vaders standpunt
I find-PST it strange that I no understanding anymore can-PST find-INF for my father-GEN viewpoint
'I found it strange that I could not understand my father's viewpoint anymore'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

4. Ik het geweldig had gevonden als Nederland had gewonnen
I it fantastic have-PST find-PTCP if Netherlands have-PST won-PTCP
'I would have been thrilled if the Netherlands had won'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

5. Maar ik vond het baanbrekend dat Turkije uiteindelijk met 1-0 won
But I find-PST it pioneering that Turkey eventually with 1-0 win-PST
'But I thought it was unbelievable that Turkey eventually won with 1-0'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

6. Er was iets heel bijzonders gebeurd: je bijna nooit meemaakt dat Turkije wint van Nederland
There be-PST something very special happen-PTCP: you almost never experience-2SG that Turkey win-3SG from Netherlands
'Something very special had happened: you almost never see Turkey winning from the Netherlands'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

7. Goed, we het hadden te danken aan Seedorf
Good, we it have-PL.PST to thank-INF to Seedorf
'Granted, we had Seedorf to thank for it'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

8. Maar dit kon niemand ons meer afnemen
But this can-PST no one us anymore take away-INF
'But no one could take this away from us'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

9. Toen Turkije had gewonnen
When Turkey have-SG.PST win-PTCP

'When Turkey had won'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

10. was ik blij en ontroerd
be-SG.PST I happy and touched
'I was happy and touched'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

11. Er werd door de Turkse gemeenschap op straat gedanst
There become-SG.PST by the Turkish community on street dance-PTCP
'The Turkish community was dancing in the street'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

12. Vervolgens hoorde ik auto's toeteren
Next hear-SG.PST I car-PL honk-INF
'After that I heard cars honk'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

13. Aanvankelijk heb ik niet uit het raam gekeken
Initially have-1SG I not from the window look-PTCP
'Initially, I did not look out of the window'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

14. Toen ik dat wel deed zag ik een enorme rij auto's met Turkse vlaggen uit het raam
When I that indeeed do-SG.PST see-SG.PST a enormous line car-PL with Turkish flag-PL from the window
'When I did, I saw an enormous line of cars with Turkish flags hanging out of the windows'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

15. De Nederlanders hadden niet uiteraard hun auto's versierd
The Dutch have-PL.PST not of course their car-PL decorate-PTCP
'The Dutch had not, of course, decorated their cars'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

16. Ik weet niet of er een gevoelige snaar van mij werd geraakt door de voetbalwedstrijd, maar dit keer huilde ik volop
I know-1SG not if there a sensitive cord from me become-SG.PST strike-by the football match, but this time cry-SG.PST I in abundance
'I don't know if a tender spot had been hit by the football match, but this time I was crying in abundance'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

17. Ik besefte dat ik had dat ook gedaan in 1988, toen Nederland had gewonnen
I realize-SG.PST that I have-SG.PST that also do-PTCP in 1988, when the Netherlands have-SG.PST won-PTCP
'I realized that I had also done that in 1988, when the Netherlands had won'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

18. Wat was er eigenlijk geraakt?
What be-SG.PST there actually strike-PTCP?
'What had actually been touched?'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

19. Het chauvinistische Nederlandse, of het chauvinistische Turkse in mij?
'The chauvinistic Dutch, or the chauvinistic Turkish in me?'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

20. En nu was het weer zover: Nederland-Turkije in Amsterdam
And now be-SG.PST it again that time: Netherlands-Turkey in Amsterdam
'And now the time was here again: the Netherlands versus Turkey in Amsterdam'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

21. Critici hadden al gezegd dat er veel gegroeid was door het Turkse elftal
Critics have-PL.PST already say-PTCP that there much grow-PTCP be-SG.PST by the Turkish team
'Critics had already said that the Turkish team had matured a lot'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

22. Ik was benieuwd wie er zou winnen

I be-SG.PST curious who there will-SG.PST win-INF
'I was curious to know who would win'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

23. Maar ik was ook in tweeën gescheurd: wilde ik dat Nederland zou winnen of Turkije?
But I be-SG.PST also in two rip-PTCP: want-SG.PST I that Netherlands will-SG.PST win-INF or Turkey?
'But I was also torn in two: did I want the Netherlands to win or Turkey?'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

24. Diep in mijn hart wist ik dat Seedorf niet weer dezelfde fout zou maken
Deep in my heart know-SG.PST I that Seedorf not again the same mistake will-SG.PST make-INF
'Deep in my heart I knew that Seedorf would not make the same mistake again'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

25. Maar ik had ook geen reden verzonnen waarom Turkije niet weer zou kunnen winnen
But I have-SG.PST also no reason think-PTCP why Turkey not again will-SG.PST can-INF win-INF
'But I could not think of a reason why Turkey could not win again either'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

26. Het werd uiteindelijk 0-0 en dat was zo onbevredigend
It become-SG.PST eventuallu 0-0 and that be-SG.PST so unrewarding
'The score was 0-0 eventually and that was so unrewarding'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

27. Waarom instinctief hebben we altijd een drift om te winnen, om partij te kiezen?
Why instinctively have-PL we always a drive for to win-INF, to side to choose-INF?
'Why do we instinctively always have a drive to win, to pick a side?'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

28. Shakespeare heeft gelijk en dat laat me niet los

Shakespeare have-3SG right and that let-3SG me not loose
'Shakespeare is right and I cannot let that go'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

29. Het leven is inderdaad een spel en wij zijn de spelers
The life be-3SG indeed a game and we be-PL the players
'Life is indeed a game and we are the players'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

30. En misschien heeft mijn vader mij het goede geleerd om partij te kiezen
And maybe have-3SG my father me the right teach-PTCP to side to choose-INF
'And maybe my father has taught me the right thing to pick a side'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

31. Maar hoe had hij toen kunnen weten dat zijn dochter ooit geen Turkse, maar een Turkse-Nederlandse zou worden?
But how have-SG.PST he then can-INF know-INF that his daughter someday no Turkish, but a Turkish-Dutch will-SG.PST become-INF?
'But how could he have known then that his daughter would, one day, not be a Turkish, but a Turkish-Dutch person?'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

32. Zodat zij niet een partij hoefde te kiezen?
So that she not a side must-SG.PST to choose-INF?
'So that she did not have to pick a side?'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

33. Omdat zij houdt van beide landen
Because she love-3SG from both country-PL
'Because she loves both countries'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

34. Uiteindelijk maakt het niet uit waar je geboren bent
Eventually make-3SG it not from where you born-PTCP be-2SG
'In the end it doesn't matter where you are born'
O Incorrect, het moet zijn: …….

O Ik weet het niet
O Correct

35. En uiteindelijk je niet omgaat met één soort mensen
And eventually you not associate-2SG with one kind people-PL
'And in the end you don't associate with only one kind of people'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

36. Het gaat meer om waar je getogen bent
It go-3SG more for where you raise-PTCP are-2SG
'Where you are raised is more important'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

37. Het ook niet had uitgemaakt als ik een jongetje was geweest
It also not have-SG.PST matter-PTCP if I a boy be-SG.PST be-PTCP
'It would not have mattered if I had been a boy either'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

38. Ik had liever niet een spel des levens gespeeld
I have-SG.PST preferably not a game of life play-PTCP
'I had rather not played life's game'
O Incorrect, het moet zijn: …….
O Ik weet het niet
O Correct

Appendix 7a: Can-Do Scales (Dutch Version)[85]

U krijgt zo een aantal stellingen voorgelegd. Deze stellingen hebben betrekking op uw taalvaardigheid op een aantal onderdelen. Het is de bedoeling dat u zelf probeert in te schatten hoe goed of hoe slecht u hierin denkt de zijn. Dit kunt u aangeven door een nummer op een 5-puntsschaal te omcirkelen. Wat de nummers betekenen ziet u hieronder.

1 = dit kan ik absoluut niet
2 = dit kan ik, maar met zeer veel moeite
3 = dit kan ik met enige moeite
4 = dit kan ik redelijk gemakkelijk
5 = dit kan ik zonder enige moeite

Luistervaardigheid			
		In het Nederlands	**In het Engels**
1	Ik kan het meeste nieuws op TV en programma's over actuele zaken begrijpen.	1 2 3 4 5	1 2 3 4 5
2	Ik kan gesproken taal, in welke vorm dan ook, begrijpen. Dit kan gesproken taal zijn op de radio of in direct contact. Ook wanneer het normale spreektempo gebruikt wordt kan ik het volgen, als ik maar wel de tijd heb om aan het accent te wennen.	1 2 3 4 5	1 2 3 4 5
3	Ik kan een lange toespraak begrijpen, zelfs als die toespraak niet duidelijk gestructureerd is en als de samenhang tussen de verschillende punten niet duidelijk aangegeven wordt door de spreker.	1 2 3 4 5	1 2 3 4 5
4	Ik kan de hoofdpunten van veel radio- of TV programma's over actuele zaken of persoonlijke en zakelijke onderwerpen begrijpen, als er maar betrekkelijk langzaam en duidelijk gesproken wordt.	1 2 3 4 5	1 2 3 4 5

[85] The Dutch can-do scales are not translated into English, because an English equivalent of the questionnaire was also available for the attrition Group and is included in Appendix 7b.

5	Ik kan lange betogen en lezingen volgen en kan zelfs ingewikkelde redeneringen volgen. Het onderwerp moet dan wel redelijk vertrouwd voor mij zijn.	1 2 3 4 5	1 2 3 4 5
6	Ik kan het grootste deel van de films begrijpen als er in die films maar gesproken wordt in de standaardtaal en niet in een dialect.	1 2 3 4 5	1 2 3 4 5
7	Ik kan de hoofdlijnen begrijpen van een duidelijke toespraak over onderwerpen waarmee ik vertrouwd ben, omdat ik dat soort toespraken regelmatig tegenkom in mijn werk of in mijn vrije tijd.	1 2 3 4 5	1 2 3 4 5
8	Ik kan over het algemeen genomen alle TV-programma's en films begrijpen.	1 2 3 4 5	1 2 3 4 5

Leesvaardigheid

		In het Nederlands	**In het Engels**
1	Ik kan lange en ingewikkelde literaire teksten of teksten met een opsomming van feiten begrijpen. Ik kan daarin ook verschillende stijlen onderscheiden, zoals formeel of informeel.	1 2 3 4 5	1 2 3 4 5
2	Ik kan alle vormen van geschreven taal lezen en begrijpen, ook abstracte teksten waarin een bepaald soort taalgebruik voorkomt, zoals handleidingen, literaire teksten of wetenschappelijke artikelen.	1 2 3 4 5	1 2 3 4 5
3	Ik kan de beschrijving van gebeurtenissen, gevoelens en wensen van mensen begrijpen als zij die hebben opgeschreven in een persoonlijke brief.	1 2 3 4 5	1 2 3 4 5
4	Ik kan teksten begrijpen die hoofdzakelijk bestaan uit alledaags	1 2 3 4 5	1 2 3 4 5

	taalgebruik of taal dat met mijn werk te maken heeft en dus bekend voor mij is.		
5	Ik kan artikelen en verslagen lezen die betrekking hebben op eigentijdse problemen en waarbij de schrijvers een bepaalde houding of een bepaald standpunt innemen.	1 2 3 4 5	1 2 3 4 5
6	Ik kan eigentijds literair proza begrijpen. Dit zijn bijvoorbeeld boeken die pas verschenen zijn.	1 2 3 4 5	1 2 3 4 5
7	Ik kan specialistische artikelen of lange instructies begrijpen, zelfs als ik geen verstand heb van het onderwerp dat wordt besproken.	1 2 3 4 5	1 2 3 4 5

Spreekvaardigheid			
		In het Nederlands	**In het Engels**
1	Ik kan deelnemen aan een vlot en spontaan gesprek. Hierdoor kan ik regelmatig een praatje maken met mensen die deze taal spreken.	1 2 3 4 5	1 2 3 4 5
2	Ik kan de taal flexibel en effectief gebruiken voor sociale en zakelijke doeleinden.	1 2 3 4 5	1 2 3 4 5
3	Ik kan een duidelijke, goedlopende beschrijving of redenering geven in een stijl die ik aan kan passen aan de situatie, zodat het verhaal duidelijk en logisch is. Hierdoor kunnen mensen die ernaar luisteren de belangrijkste punten van het verhaal opmerken en onthouden.	1 2 3 4 5	1 2 3 4 5
4	Ik kan deelnemen aan welk gesprek of discussie dan ook en ben goed bekend met spreekwoorden en spreektaal in het algemeen.	1 2 3 4 5	1 2 3 4 5
5	Als ik vastloop in mijn verhaal kan ik er zo omheen praten dat andere	1 2 3 4 5	1 2 3 4 5

	mensen het nauwelijks merken.		
6	Ik kan duidelijke, nauwkeurige presentaties geven over een breed scala aan onderwerpen waar ik persoonlijk in ben geïnteresseerd.	1 2 3 4 5	1 2 3 4 5
7	Ik kan onvoorbereid deelnemen aan een gesprek over onderwerpen die vertrouwd zijn of die mij persoonlijk interesseren. Dit kunnen bijvoorbeeld onderwerpen zijn die betrekking hebben op het dagelijks leven, zoals hobby's, werk, familie, reizen of actuele gebeurtenissen.	1 2 3 4 5	1 2 3 4 5
8	Ik kan een verhaal vertellen of de plot van een boek of film beschrijven en ook mijn reacties hierop.	1 2 3 4 5	1 2 3 4 5
9	Ik kan duidelijke, nauwkeurige presentaties geven over lastige onderwerpen. Daarbij kan ik verschillende punten bij elkaar laten aansluiten, mijn mening erop geven en alles afronden met een passende conclusie.	1 2 3 4 5	1 2 3 4 5
10	Ik kan omgaan met de meeste situaties die kunnen optreden tijdens een reis waar de betreffende taal wordt gesproken.	1 2 3 4 5	1 2 3 4 5
11	Ik kan actief deelnemen aan een discussie en mijn mening uitleggen en verduidelijken, mits de situatie vertrouwd is voor mij.	1 2 3 4 5	1 2 3 4 5
12	Ik kan zinnen op een simpele manier met elkaar verbinden, zodat ik ervaringen en gebeurtenissen, mijn dromen, hoop en ambities kan beschrijven aan mensen op een informele manier.	1 2 3 4 5	1 2 3 4 5
13	Ik kan mijzelf vloeiend en spontaan uitdrukken zonder echt naar uitdrukkingen of woorden te hoeven	1 2 3 4 5	1 2 3 4 5

	zoeken.		
14	Ik kan mijn mening over een actueel onderwerp uitleggen en de voordelen en nadelen van diversie opties uitleggen.	1 2 3 4 5	1 2 3 4 5
15	Ik kan ideeën en meningen heel precies formuleren en mijn eigen mening op een goede manier vergelijken met die van andere mensen.	1 2 3 4 5	1 2 3 4 5
16	Ik kan mijzelf vloeiend uitdrukken en de fijnere betekenisnuances precies weergeven.	1 2 3 4 5	1 2 3 4 5
17	Ik kan in het kort redenen en verklaringen geven voor mijn meningen en plannen.	1 2 3 4 5	1 2 3 4 5

Schrijfvaardigheid

		In het Nederlands	**In het Engels**
1	Ik kan verschillende soorten teksten schrijven in een zelfverzekerde, persoonlijke stijl die ik kan aanpassen aan de lezer die ik gedachten heb.	1 2 3 4 5	1 2 3 4 5
2	Ik kan een opstel of verslag schrijven, informatie schriftelijk doorgeven of redenen opschrijven om mijn mening voor of tégen een specifiek standpunt te ondersteunen.	1 2 3 4 5	1 2 3 4 5
3	Ik kan eenvoudige, samenhangende teksten schrijven over onderwerpen waarmee ik vertrouwd ben of die voor mij van persoonlijk belang zijn.	1 2 3 4 5	1 2 3 4 5
4	Ik kan persoonlijke brieven schrijven waarin ik mijn ervaringen en indrukken beschrijf aan anderen.	1 2 3 4 5	1 2 3 4 5
5	Ik kan mijzelf in duidelijk, goed gestructureerde tekst uitdrukken en daarin uitgebreid mijn meningen	1 2 3 4 5	1 2 3 4 5

	geven.											
6	Ik kan een duidelijke en vloeiend lopende tekst in een gepaste stijl schrijven.	1	2	3	4	5		1	2	3	4	5
7	Ik kan complexe, goedlopende brieven, verslagen of artikelen schrijven waarin ik op een effektieve manier inga op een bepaald onderwerp op zo'n manier dat de lezer de belangrijkste punten kan opmerken en onthouden.	1	2	3	4	5		1	2	3	4	5
8	Ik kan een duidelijke tekst schrijven over een breed scala aan onderwerpen waarin ik persoonlijk in ben geïnteresseerd.	1	2		4	5		1	2	3	4	5
9	Ik kan persoonlijke, informele brieven schrijven waarin ik beschrijf of een bepaalde gebeurtenis of ervaring belangrijk voor mij was en wat dit heeft betekend voor mij.	1	2	3	4	5		1	2	3	4	5
10	Ik kan samenvattingen schrijven van zakelijke of literaire werken. Ik kan ook mijn kritiek hierover op papier zetten.	1	2	3	4	5		1	2	3	4	5
11	Ik kan in een brief, opstel of verslag gedetailleerde stukken schrijven over ingewikkelde onderwerpen en ik kan hierbij zorgen dat de belangrijkste punten goed overkomen.	1	2	3	4	5		1	2	3	4	5

Appendix 7b: Can-Do Scales (English Version)

Listed below are a number of 'can I do it or can't I do it-scales'. They consist of statements about your language proficiency in both Dutch and English. What I am interested in is how you, yourself, perceive your current language proficiency in both languages. Please read each description carefully and circle the appropriate number to indicate how well you think you would be able to carry out each task in each language at present. Please note that you can only circle one number per language and per statement. Please use the following scale:

1 = I can't do this at all
2 = I can do this, but with great difficulty
3 = I can do this, although with some difficulty
4 = I can do this fairly easily
5 = I can do this without any difficulty at all

Listening ability

		In English					In Dutch				
1	I can understand most TV news and current affairs programmes.	1	2	3	4	5	1	2	3	4	5
2	I can understand any kind of spoken language, whether on the radio or in direct contact. I can also do this when delivered at normal, native speed, provided I have some time to get used to the accent.	1	2	3	4	5	1	2	3	4	5
3	I can understand long stretches of speech, even when not clearly structured and when the link between different arguments is not explicitly provided by the speaker.	1	2	3	4	5	1	2	3	4	5
4	I can understand the main points of many radio or TV programmes on current affairs or topics that are of personal or professional interest to me, provided that the broadcasters speak relatively slowly and clearly.	1	2	3	4	5	1	2	3	4	5
5	I can understand long stretches of speech and lectures and can follow even complex lines of argumentation, provided the topic is reasonably familiar to me.	1	2	3	4	5	1	2	3	4	5

6	I can understand the majority of films, provided that the actors speak a standard variety of the language and not a regional dialect.	1	2	3	4	5	1	2	3	4	5
7	I can understand the main points of clear speech on familiar matters regularly encountered at work or in my spare time.	1	2	3	4	5	1	2	3	4	5
8	I can understand television programmes and films.	1	2	3	4	5	1	2	3	4	5

Reading ability

		In English					**In Dutch**				
1	I can understand long and complex texts of a factual or literary nature, and can appreciate different styles.	1	2	3	4	5	1	2	3	4	5
2	I can read virtually all forms of the written language, including abstract or complex texts, such as manuals, literary texts or scientific articles.	1	2	3	4	5	1	2	3	4	5
3	I can understand letters in which events, feelings and wishes are described.	1	2	3	4	5	1	2	3	4	5
4	I can understand texts that mainly consist of common and familiar, everyday or job-related language.	1	2	3	4	5	1	2	3	4	5
5	I can read articles and reports concerned with contemporary problems in which the author takes a particular viewpoint.	1	2	3	4	5	1	2	3	4	5
6	I can understand contemporary literary prose, such as recently published books.	1	2	3	4	5	1	2	3	4	5
7	I can understand specialised articles and long instruction texts, even when I am not familiar with the subject	1	2	3	4	5	1	2	3	4	5

	matter.

Speaking ability

		In English					In Dutch				
1	I can interact in a fluent and spontaneous conversation, enabling regular interaction with native speakers.	1	2	3	4	5	1	2	3	4	5
2	I can use language flexibly and effectively for social and professional purposes.	1	2	3	4	5	1	2	3	4	5
3	I can present a clear and well-formulated description or argument in a style appropriate to the context and in such a way that those listening to it can pick up and remember the most important points.	1	2	3	4	5	1	2	3	4	5
4	I can take part in any conversation or discussion and am familiar with idiomatic expressions and colloquialisms.	1	2	3	4	5	1	2	3	4	5
5	If I get stuck I can backtrack and restructure my argument in such a way that other people are hardly aware of it.	1	2	3	4	5	1	2	3	4	5
6	I can give clear, detailed presentations on a wide range of topics that are of personal interest to me.	1	2	3	4	5	1	2	3	4	5
7	I can enter unprepared into a conversation on topics that are familiar or of personal interest to me. These can be topics that relate to everyday life, such as family, hobbies, work, travel, current events, etc.	1	2	3	4	5	1	2	3	4	5
8	I can retell a story or the plot of a book or film as well as describe my reactions to it.	1	2	3	4	5	1	2	3	4	5

9	I can talk clearly and in detail on complex topics, relating different lines of my argument to one another as well as give my viewpoints. I can then end with an appropriate conclusion.	1	2	3	4	5	1	2	3	4	5
10	I can deal with most situations likely to arise whilst travelling in an area where the language is spoken.	1	2	3	4	5	1	2	3	4	5
11	I can take an active part in discussions, accounting for and elaborating on my views, provided the discussion takes place in a familiar setting.	1	2	3	4	5	1	2	3	4	5
12	I can connect sentences in a simple way in order to describe everyday experiences and events in my life as well as hopes, dreams and ambitions.	1	2	3	4	5	1	2	3	4	5
13	I can express myself fluently and spontaneously, without much obvious searching for words.	1	2	3	4	5	1	2	3	4	5
14	I can explain my viewpoints on current affairs, giving the advantages and disadvantages of various options.	1	2	3	4	5	1	2	3	4	5
15	I can formulate ideas and opinions with precision and relate my viewpoints skilfully to those of other people.	1	2	3	4	5	1	2	3	4	5
16	I can express myself fluently and can convey finer shades of meaning.	1	2	3	4	5	1	2	3	4	5
17	I can briefly state reasons and explanations for my opinions and plans.	1	2	3	4	5	1	2	3	4	5

Writing ability

		In English					**In Dutch**				
1	I can write different kinds of texts, selecting a confident, personal writing style appropriate for the	1	2	3	4	5	1	2	3	4	5

	reader I have in mind.										
2	I can write an essay or report, passing on written information or presenting reasons in support of or against a particular point of view.	1	2	3	4	5	1	2	3	4	5
3	I can write simple, coherent texts on topics familiar to me or of personal interest.	1	2	3	4	5	1	2	3	4	5
4	I can write personal letters in which I describe my experiences or impressions to others.	1	2	3	4	5	1	2	3	4	5
5	I can present detailed opinions in a clear, well-structured text.	1	2	3	4	5	1	2	3	4	5
6	I can produce clear, detailed texts on a wide range of topics.	1	2	3	4	5	1	2	3	4	5
7	I can write complex, well-formulated letters, reports or articles in which I effectively present a case in such a way that the reader is able to pick up and remember the most important points.	1	2	3	4	5	1	2	3	4	5
8	I can write clear, well-formulated texts in an appropriate style on topics that are of personal interest to me.	1	2	3	4	5	1	2	3	4	5
9	I can write letters highlighting the personal significance of events or experiences.	1	2	3	4	5	1	2	3	4	5
10	I can produce summaries and reviews of professional or literary works.	1	2	3	4	5	1	2	3	4	5
11	I can write about complex topics in a letter, essay or report, underlying what I consider to be the most salient issues.	1	2	3	4	5	1	2	3	4	5

Samenvatting in het Nederlands
(Summary in Dutch)

1. De regressie hypothese en de speerpunten van dit onderzoek

De centrale vraag in dit onderzoek is of de regressie hypothese, voor het eerst in een talige context geformuleerd door Roman Jakobson (1941), bewezen kan worden bij het taalverlies van Nederlandse emigranten in het Engelstalige gedeelte van Canada. De regressie hypothese veronderstelt dat taalverlies het spiegelbeeld is van taalverwerving. Met andere woorden, die talige kenmerken die het laatst verworven worden zullen ook het eerste weer verloren gaan bij taalverlies.

De regressie hypothese is eerder getest, maar hierbij is veelal een vergelijking gemaakt tussen het taalgebruik van jonge kinderen (tot kleuterleeftijd) en dat van afasiepatiënten (Caramazza & Zurif, 1978; Grodzinsky, 1990; Kolk, 2001). Er bestaan echter grote verschillen tussen deze twee populaties, vooral omdat afasie plotseling optreedt terwijl taalverlies geleidelijk verloopt. Het is daarom moeilijk deze twee groepen te vergelijken. Niet-pathologisch taalverlies, zoals bij emigranten, is beter geschikt omdat dit, net als taalverwerving, geleidelijk plaatsvindt. Toch heeft onderzoek dat een vergelijking heeft gemaakt tussen kindertaalverwerving en taalverlies bij emigranten (Jordens et al., 1986; 1989, Schmid, 2002, Hansen, 1999, etc.) ook niet geresulteerd in eenduidige bevindingen. Voor een deel is dit te wijten aan uiteenlopende methodologische aanpakken, maar ook vormen de jonge taalbeheersers die gebruikt zijn geen ideale groep om met taalverliezers te vergelijken. Het is al aangetoond dat taalverlies in emigrantenpopulaties heel gering en subtiel is. Het is daarom niet vanzelfsprekend dat taalsystemen van emigranten door de jaren heen gaan lijken op die van jonge kinderen. Dit onderzoek wijkt af van eerdere studies. Niet alleen wordt er gekeken naar niet-pathologisch taalverlies, maar dit wordt ook afgezet tegen het taalgebruik van oudere kinderen. Dit onderzoek is gebaseerd op de resultaten van drie groepen taalgebruikers, te weten:

- 45 Nederlandse emigranten in Canada
- 45 proefpersonen in Nederland als controlegroep
- een groep van 35 middelbare scholieren in Nederland van 13 en 14 jaar oud.

De leden van de laatste groep worden geacht hun eerste taal bijna volledig verworven te hebben, maar tieners kunnen nog op bepaalde aspecten afwijken van volwassen taalgebruikers. Hierin zouden wij parallellen kunnen laten zien met de Nederlanders in Canada die volgens eerder onderzoek ook subtiele afwijkingen in hun taalgebruik vertonen.

Dit onderzoek richt zich vooral op het verlies van morfologie (woordvorming en verbuiging) en syntaxis (woordvolgorde). Deze twee taaldomeinen laten veelal een geleidelijke verwervingsvolgorde zien bij kinderen, die ook weer gemakkelijker afgezet kan worden tegen het proces van taalverlies. Een vergelijking van woordenschat zou bijvoorbeeld veel moeilijker zijn. Niet alleen omdat verwerving van vocabulaire vaak heel plotseling verloopt met grote sprongen, maar ook omdat hier grote individuele verschillen aangetroffen worden, wat een groepsvergelijking moeilijker zou maken (Garton & Pratt, 1989: 79-80). In totaal zijn er 10 morfologische kenmerken onder de loep genomen: meervouden, agens vormen, lidwoorden, bijvoeglijke naamwoorden, verkleinwoorden, tegenwoordige tijd, verleden tijd, voltooid deelwoorden, hulpwerkwoorden en toekomstige tijd. Er is bovendien gekeken naar de morfo-syntactische verschijnselen van ontkenning, passieve zinnen, en woordvolgordes in hoofd- en bijzinnen.

Om hypotheses op te stellen over het verloop van taalverlies is de bestaande verwervingsliteratuur gebruikt en wat er bekend is over verwervingsvolgordes is samengevat in zogenaamde implicationale hiërarchieën (zie van Hout, Jaspaert & Vermeer, 1985). Dit zijn schema's zoals die in (1), welke zich richt op de verwerving van verleden tijden:

1) verleden tijdsvormen van zwakke werkwoorden
   <
   verleden tijdsvormen van sterke werkwoorden

Met andere woorden, Nederlandstalige kinderen leren eerst zwakke verleden tijdsvormen die gevormd kunnen worden door de toepassing van een regel (*werk – werk-te*). Pas als dit verworven is, kunnen kinderen zich richten op sterke

verleden tijdsvormen, die veelal in het geheel moeten worden opgeslagen in het geheugen (bijvoorbeeld *loop* – *liep*). In het kader van de regressie hypothese kan dan verondersteld worden dat de verleden tijdsvorming van sterke werkwoorden het eerst aangetast zal worden in taalverlies. Implicationele hiërarchieën kunnen ook abstracter aangeduid worden, als in (2).

2) A < B < C

In taalverwerving moet A verworven zijn voordat B verworven kan worden. Zolang B niet verworven is kan C weer niet verworven worden. Volgens de regressie hypothese laat taalverlies het spiegelbeeld zien: zolang C nog beheerst wordt, kan ervan uitgegaan worden dat ook B en A nog intact zullen zijn. A kan niet verloren gaan zolang B nog beheerst wordt en B kan niet verloren gaan als C nog intact is. Per talig kenmerk dat onderzocht is in dit onderzoek werd een dergelijke hiërarchie opgesteld om parallellen in taalverwerving en verlies te kunnen vaststellen.

Alle proefpersonen kregen een aantal taken voorgelegd. Dat waren expliciete taaltaken om hun morfologische en syntactische kennis te meten, zoals een taak waarin zij bijvoorbeeld meervouden, verkleinwoorden of verleden tijden moesten vormen op basis van niet-bestaande woorden (morfologische taak) of een taak waarin proefpersonen gevraagd werden het grammaticale gehalte van voorgelegde zinnen te beoordelen (syntactische taak). Proefpersonen werden echter ook gevraagd om een stuk film na te vertellen om op deze manier spontane taaldata te kunnen verzamelen. Op basis van deze gecombineerde onderzoeksopzet werden de morfologische en syntactische vaardigheden van de drie groepen getest.

2. Een theoretische verklaring voor regressie

Alvorens de bevindingen van dit onderzoek te presenteren, is het van belang een theoretische verklaring te vinden voor mogelijke regressiepatronen. Het is niet genoeg om parallellen vast te stellen tussen taalverwerving en verlies; het is minstens zo belangrijk om deze trend te verklaren. Het is niet voor de hand liggend dat de volgorde van verwerving zelf het verloop van taalverlies bepaalt. Het is logischer te veronderstellen dat soortgelijke beperkingen van kracht zijn

op de taalsystemen van scholieren en emigranten, wat resulteert in spiegelbeeldige patronen.

Om een beter beeld te krijgen van de aard van deze beperkingen is regressie in drie theoretische kaders geplaatst. Twee van deze kaders hebben hun kracht op het gebied van taalverwerving al bewezen: generatieve en taal-in-gebruik-theorieën. Een derde kader dat aangewend is in dit onderzoek is slechts recentelijk toegepast op taal, maar omdat deze benadering taalverwerving en -verlies als soortgelijke processen van verandering beschouwt, kan deze theorie veel betekenen voor de regressie hypothese: Dynamic Systems Theory.

Generatieve benaderingen naar taal proberen taalfenomenen te verklaren op basis van het interne regelsysteem van de taal zelf. Volgens generativisten worden kinderen geboren met een aangeboren taalvermogen, dat zij universele grammatica noemen. Alle kinderen over de hele wereld hebben dit taalvermogen en afhankelijk van de taal die zij om zich heen horen worden die universele principes omgezet in taalspecifieke kenmerken. Met andere woorden, zet een kind in Nederland en hij of zij leert Nederlands. Plaats datzelfde kind in Engeland en hij of zij zal Engels als eerste taal ontwikkelen. Generativisme kan verklarende waarde hebben als het gaat om regressie, vooral op het gebied van universele grammatica. Kinderen en taalverliezers kunnen veel afwijkende vormen produceren, maar deze zullen altijd binnen het domein van universeel geoorloofde constructies blijven (Crain & Lillo-Martin, 1999). Ondanks het feit dat generativisme mogelijke overeenkomsten tussen de twee groepen taalgebruikers kan verklaren, is het moeilijk precieze voorspellingen te doen, omdat de categorie universeel geoorloofde constructies moeilijk af te bakenen is.

In tegenstelling tot generatieve ideeën wordt het ontstaan van taal in kinderen vaak ook verklaard vanuit een taal-in-gebruik oogpunt (constructivisme). Taal ontwikkelt zich niet in isolatie en ondanks het feit dat kinderen wel specifieke vaardigheden meenemen als het gaat om het leren van taal (zoals het ontdekken van communicatieve intenties van anderen en het vermogen tot patroonontdekking), denken constructivisten niet dat kinderen een aangeboren taalvermogen hebben. Kinderen werken in eerste instantie op een woordspecifieke basis, en die items gebruiken zij vervolgens om analogieën te trekken en categorieën te vormen. Vaardigheden als categorievorming zijn ook terug te vinden in andere primaten zoals gorilla's en chimpansees, maar als deze toegepast worden op menselijke taal, vormen zich idiosyncratische

patronen. Kinderen kunnen alleen taal aanleren in interactie met hun omgeving (Tomasello, 2003). Het is juist het idee dat taal zich ontwikkelt aan de hand van omgevingspatronen dat verklarende waarde kan hebben voor de regressie hypothese: taalverlies kan het spiegelbeeld laten zien van taalverwerving omdat er steeds minder aanwijzingen voorhanden zijn die het taalsysteem op peil houden. Op een bepaald punt zijn er niet genoeg aanknopingspunten meer om een patroon vast te houden. Dit proces kan versterkt worden door de aanwezigheid van een tweede taalsysteem, het Engels in dit geval. Om een voorbeeld te noemen, het verkleinwoord in het Nederlands kan op vijf verschillende manieren gevormd worden, afhankelijk van de fonologische vorm van het woord: *tafel-tje; hark-je; tor(r)-etje; konin-kje; boom-pje.* Kinderen vormen in eerste instantie vaak een categorie van het meest voorkomende suffix: *-tje* en vormen dan woorden als *tafel-tje*, maar ook *hark-tje, tor-tje, koning-tje* en *boom-tje.* Door het gebrek aan Nederlandse input, maar ook doordat Engels geen productieve manier heeft om het verkleinwoord te vormen, kunnen emigranten uiteindelijk ook terugvallen van vijf categorieën naar nog maar één. Ook emigranten kunnen werken op woordspecifieke basis waar de categorie in eerste instantie misschien nog gehandhaafd wordt, maar bepaalde items niet meer het juiste verkleinwoordpatroon volgen.

Een theorie die aansluit bij taalgebruiktheorieën is die van Dynamic Systems Theory (DST), dat zijn oorsprong vindt in de natuurwetenschappen. DST ziet taal als een systeem dat voortdurend onderhevig is aan veranderingen. Taalverandering laat complexe patronen zien die niet altijd voorspelbaar zijn op basis van de beginsituatie. Daarmee maakt Dynamic Systems Theory geen onderscheid tussen verwerving en verlies; taalgebruikers laten een proces van groei en afname zien op verschillende punten in hun leven. Taalverwerving en taalverlies zijn niet twee verschillende fenomenen, maar zijn processen die zich bewegen over een continuüm. Systemen onderhevig aan zowel verwerving als verlies zijn constant in beweging op zoek naar een nieuwe 'attractor state', een natuurlijk stadium waarin het enige tijd berust voordat andere invloeden van buiten de systemen opnieuw in beweging zetten. De transitie van een attractor state naar de volgende toont altijd de meeste schommelingen in taalgebruik, waar de ene keer een vorm wel correct is en de andere keer niet (Larsen-Freeman, 1997; Herdina & Jessner, 2002). Om een voorbeeld te noemen, tweede taalverwerving zou eigenlijk kunnen stoppen in een stadium waarin de leerder zichzelf goed kan verwoorden in de vreemde taal (een goede attractor

state), maar door invloeden van buitenaf (een voortdurend aanbod) en een interne drang om ook over andere zaken als de meest basale te kunnen praten, zullen de meeste tweede taalsystemen zich toch verder ontwikkelen. Met andere woorden, de kracht van Dynamic Systems Theory is dat het systeem interne drang met invloeden van buitenaf kan combineren. Welke van de drie theoretische kaders regressie het beste kan verklaren moet blijken uit de bevindingen van dit onderzoek.

3. De bevindingen

De scores van de drie groepen op de verschillende taaltaken werden statistisch met elkaar vergeleken. Deze vergelijking liet een aantal parallellen en verschillen tussen de drie populaties zien. Wat betreft algemene taalvaardigheid, getest met invulteksten, was het zo dat de Nederlandse controle proefpersonen significant beter scoorden dan zowel de taalverliezers als taalverwervers. De emigranten, op hun beurt, deden het weer beter dan de scholieren. Deze tendens werd ook waargenomen op de vrij gesproken data (de film-naverteltaak), waar de kinderen de minste lexicale variatie lieten zien, gevolgd door de emigranten. De controlegroep liet de meeste variatie zien. Met lexicale variatie wordt verschillend woordgebruik bedoeld. Gebruiken mensen steeds dezelfde woorden om iets na te vertellen of hebben zij meer woorden tot hun beschikking en variëren zij meer?

Wanneer we echter niet meer over de hele linie kijken, maar per morfologisch of syntactisch kenmerk dat deel uitmaakte van deze studie, dan komt een andere tendens naar voren. In vrijwel alle gevallen was het de groep van controle proefpersonen in Nederland die het beste presteerde. In veel gevallen was er echter geen significant verschil tussen de emigranten in Canada en de adolescenten in Nederland. Met andere woorden, de scores van deze twee groepen kwamen overeen, wat indicatief was voor regressie. Dat was het geval voor meervouden, agens vormen, lidwoorden, verkleinwoorden, verleden tijden, voltooid deelwoorden, toekomende tijden, ontkenning en passieve zinnen. Hieruit kan afgeleid worden dat morfologische kenmerken gevoeliger zijn voor taalverlies en moeilijker te verwerven zijn dan puur syntactische fenomenen: woordvolgordes in hoofd- en bijzinnen lieten bijvoorbeeld geen symmetrie zien tussen de emigranten en leerders.

Niet alleen het aantal, maar ook het soort fouten die gemaakt werden op de taaltaken door zowel de emigranten als de scholieren kwamen overeen. Wat bijvoorbeeld bij beide groepen waargenomen kon worden was een overgeneralisatie van *–en* meervouden ten koste van *–s* meervoudsvormen: beide groepen produceerden **groffel-en,* dat volgens de fonologische verbuigingsregels (zie 3.1.1) *groffel-s* had moeten zijn. Dit is verklaarbaar vanuit het feit dat *–en* meervouden frequenter zijn dan meervoudsvormen op *–s*. Ook kwam het bijvoorbeeld regelmatig voor dat de emigranten en de kinderen de zwakke verbuiging toepasten op sterke verleden tijdsvormen, wat bijvoorbeeld resulteerde in **help-ten* in plaats van het standaard *hielpen*. Toch was het niet altijd zo dat de proefpersonen in Canada overeenkwamen met de kinderen in de soort fouten dat zij maakten. Zo pasten de emigranten meer *–s* generalisatie toe in meervouden dan de adolescenten: **trag-s* in plaats van *trag(g)-en*.

Overigens produceerden alle proefpersonen, maar vooral de emigranten en kinderen, veel meer afwijkende morfologische vormen in de gecontroleerde taaltaken dan in hun vrij gesproken data. Dit bleek veelal verklaard te kunnen worden door ontwijkingstrategieën: zodra proefpersonen zich ervan bewust waren niet goed in bijvoorbeeld agens vormen te zijn, probeerden zij deze ook te vermijden in hun spontane taaldata: in plaats van vormen als *zwerfster* werd dan vaak *het meisje dat zwerft* gebruikt. Zo kwamen er in de naverteltaken van de emigranten en leerders significant minder agens vormen en verkleinwoorden voor dan in de data van de controle proefpersonen.

Wat betreft puur syntactische fenomenen was er een duidelijk verschil tussen de emigranten en adolescenten, maar enkel op de vrij gesproken data. Geen verschillen werden aangetroffen op de gecontroleerde grammaticaliteitsoordelen waar de emigranten en kinderen niet significant minder scoorden dan de controlegroep. Vooral wat betreft woordvolgorde, kwamen veel afwijkende structuren voor in de spontane taalproductie van de emigranten, maar niet in die van de kinderen. Zo plaatsten veel Nederlandse Canadezen het werkwoord in bijzinnen op de tweede plaats. Dit is wel toegestaan in Nederlandse hoofdzinnen, maar niet in bijzinnen. Zij lijken hiermee het Engelse model te hanteren, waar werkwoorden altijd het onderwerp volgen, zowel in hoofd- als bijzinnen. De constructies in (3a) en (3b) zijn hier voorbeelden van. De correcte constructie staat steeds tussen haakjes aangegeven.

3a) *toen zei die man dat hij had geen geld (dat hij geen geld had)*
3b) *omdat de kioskeigenaar ziet niet de politie (omdat de kioskeigenaar de politie niet ziet)*

Ondanks het feit dat de hoofdvraag van dit onderzoek niet lag in de invloed van sociolinguïstische achtergrond van sprekers op hun prestaties op de taaltaken, bleek het toch veelal zo te zijn dat opleidingsniveau een gedeelte van de uitkomsten kon verklaren: proefpersonen met een hoger opleidingsniveau scoorden over het algemeen hoger dan mensen met een lagere opleiding. Dit gold zowel voor de volwassenen in Canada en Nederland als voor de Nederlandse scholieren. De andere drie factoren die mee waren genomen in de analyse, leeftijd, sexe en regio waar mensen geboren en opgegroeid waren, hadden over het algemeen geen effect op de resultaten.

Samengevat kan gezegd worden dat de emigranten en scholieren overeenkomsten lieten zien op veel van de morfologische en morfo-syntactische kenmerken waar deze studie zich op richtte. Zij scoorden veelal lager dan de volwassen proefpersonen in Nederland op de taaltaken en ontweken complexe structuren in hun spontane taalgebruik. . Toch week het taalgedrag van de emigranten op bepaalde punten ook af van dat van de adolescenten, vooral wat betreft woordvolgorde: de emigranten produceerden veel afwijkende constructies in hun spontane taaldata, maar dergelijke afwijkingen werden niet gevonden in de data van de kinderen. Het is van belang te vermelden dat alle bevindingen gebaseerd zijn op groepstendensen. Wanneer er echter gekeken wordt naar individuele presentaties, komen er verschillen naar voren, die niet meegenomen zijn in dit onderzoek.

4. Interpretatie van de resultaten

Ten eerste heeft dit onderzoek nogmaals uitgewezen dat taalverlies een subtiel fenomeen is: op algemene taalvaardigheid deden de emigranten het nog altijd beter dan Nederlandstalige kinderen van 13 en 14 jaar oud. De belangrijkste uitkomst van dit onderzoek is echter dat er in veel gevallen sprake was van regressiepatronen: de emigranten en kinderen kwamen overeen wat betreft het aantal en soort fouten die zij maakten. Deze patronen waren het duidelijkst zichtbaar bij morfologische kenmerken, waar 7 van de 10 fenomenen een

spiegelbeeld lieten zien tussen de Nederlands Canadezen en de adolescenten. Dat morfologie gevoeliger is voor taalverlies dan syntaxis wordt overigens ook voorspeld door de regressie hypothese: de morfologische kenmerken die onderzocht zijn in dit onderzoek worden over het algemeen later verworven dan de puur syntactische fenomenen als woordvolgorde.

Een belangrijke vraag is hoe deze regressiepatronen verklaard kunnen worden. Het is niet afdoende om overeenkomsten tussen de emigranten en kinderen te observeren. Het feit dat de emigranten en de kinderen, behalve hetzelfde aantallen afwijkingen, ook dezelfde soort afwijkende vormen produceerden op de taaltaken duidt erop dat beide taalsystemen gekenmerkt worden door hetzelfde soort beperkingen. Dat kan vervolgens weer duiden op universele grammatica die beide processen vormt en ondersteunt (zie 2). Omdat precieze voorspellingen over de aard van de beperkingen moeilijk te maken zijn, kan dit echter niet met zekerheid gezegd worden.

De subtiliteit van taalverlies zelf duidt op item-specifiek verlies: de algemene Nederlandse taalvaardigheid lijkt niet te zijn aangetast in emigranten en alle proefpersonen konden de taken nog gewoon uitvoeren en een film navertellen in het Nederlands. Het was wel zo dat een aantal afwijkende vormen voorkwamen, maar dezelfde regel werd op andere vormen wel correct toegepast. Zo kwam de nonsens constructie *hij randel-de* bijvoorbeeld voor naast * *hij vruk-de*. Dit laatste zou op basis van de fonologische vorm van het nonsens woord *vruk-te* moeten zijn. Soortgelijke gedeeltelijke verwerving of gedeeltelijk verlies is moeilijk te verklaren vanuit een generatief kader, omdat door de hulp van universele grammatica iets of wel of niet verworven is, maar niet half.

De fluctuaties in taalsystemen van attractor state naar attractor state vormen de basis van Dynamic Systems Theory. In de data analyse van dit onderzoek kwamen er individuele verschillen naar voren tussen proefpersonen. Ondanks het feit dat er ook een groepstrend werd waargenomen, kunnen deze verschillen verklaard worden vanuit DST: sommige proefpersonen lieten veel meer variatie zien in hun taalvaardigheid: zij produceerden de ene keer bijvoorbeeld wel het de correcte verleden tijdsvorm, maar vormden een volgend moment de verleden tijd door middel van een niet-standaard suffix. Het ligt voor de hand dat deze mensen zich bevonden zich in de transitiefase van de ene attractor state naar de andere, waarin fluctuaties altijd het grootst zijn. Andere proefpersonen leken over een relatief stabiel taalsysteem te beschikken en zijn daarmee binnen Dynamic Systems Theory aangeland bij een

bepaalde attractor state. Evenals bij universele grammatica is het hier zo dat er geen duidelijk omlijnde predicties gemaakt kunnen worden over het moment waarop het systeem overgaat van de ene attractor state naar de andere, maar dat is juist inherent aan DST benaderingen.

Regressie kan niet alle uitkomsten van dit onderzoek verklaren. Vooral op de syntactische aspecten van woordvolgorde in hoofd- en bijzinnen kwamen geen significante verschillen aan het licht tussen de drie groepen taalgebruikers op de grammaticaliteitsoordelen. Wel was het zo dat de emigranten significant meer afwijkende woordvolgordes produceerden dan de andere twee groepen in hun spontane taalproductie. Dat was zowel het geval in hoofdzinnen als bijzinnen (zie (3a) en (3b)). Deze afwijkingen kwamen vrijwel zeker voort uit tweede taalinvloeden van het Engels. Met de wisselwerking tussen interne factoren en invloeden van buitenaf kan Dynamic Systems Theory ook verklaren waarin er zowel regressie patronen voorkwamen als invloeden vanuit de tweede taal.

5. Conclusie

Deze studie heeft getracht bij te dragen aan onderzoek naar de regressie hypothese en heeft als een van de weinige onderzoeken tot nu toe regressie aan kunnen tonen op relatief grote schaal. De uitkomsten die hier gepresenteerd zijn hebben implicaties voor ander onderzoek dat zich richt op veranderende taalsystemen en eventuele verschillen en overeenkomsten daartussen. Ten eerste is gebleken dat regressie een subtiel fenomeen is: de algemene taalvaardigheid van de emigranten was nog altijd grotendeels intact en het was enkel op bepaalde talige kenmerken dat kleine afwijkingen geconstateerd konden worden en dan niet eens altijd in de vrij gesproken data, maar enkel als onderdeel van de gecontroleerde taaltaken. Gerelateerd daaraan is dat kinderen er langer over doen om de subtiele onderdelen van hun moedertaal onder de knie te krijgen dan vaak wel wordt aangenomen: veel aspecten zijn nog niet helemaal verworven bij kinderen van 13 of 14 jaar.

Zowel op theoretische als methodologische gronden zijn bezwaren aan te brengen tegen de aanpak van dit onderzoek, wat weer gevolgen zou kunnen hebben voor de generaliseerbaarheid van de resultaten. Methodologisch gezien werden proefpersonen vrijwel nooit onder tijdsdruk gezet tijdens het uitvoeren van de taaltaken. Prestatie onder tijdsdruk was misschien informatief geweest

met betrekking tot de vraag of taalverlies enkel een mindere mate van toegankelijkheid van het taalsysteem inhoudt of dat het gekenmerkt wordt door onomkeerbaar verlies (zie Ammerlaan, 1996; Hulsen, 2000). Aan de andere kant heeft eerder onderzoek nooit veel effecten van tijdsdruk kunnen meten (Grendel et al., 1993). Ook zou het gebruik van andersoortige, complexere multi-level statistische analyses misschien beter zijn geweest voor de onderzoeksopzet met drie zeer uiteenlopende populaties, maar om praktische redenen bleek dit niet mogelijk: het computerprogramma om deze berekeningen uit te kunnen voeren is niet gemakkelijk voorhanden. Op theoretisch vlak is het referentiekader het belangrijkste bezwaar. Hoewel de opzet van dit onderzoek was om stadia van taalverlies te vergelijken met stadia in taalverwerving, is niet gekozen voor een longitudinaal onderzoek door de tijd heen, maar voor een synchrone onderzoeksopzet met het gebruik van een controlegroep. Dit rijmt niet met de implicationele hiërarchieën die wel een beeld door de tijd heen geven. Vanwege de vierjarige opzet van dit onderzoek was het om praktische redenen niet mogelijk om mensen meerdere malen te testen. Ook zijn de implicationele hiërarchieën nooit gebruikt als absoluut, maar altijd behandeld als relatieve indicators van verwervingsvolgordes.

Dit onderzoek vergelijkt twee taalsystemen in ontwikkeling. Daarmee sluit het nauw aan bij onderzoek naar andere ontwikkelende taalsystemen, zoals creooltalen, maar ook tweede taalverwerving. In de toekomst zou het wenselijk zijn als onderzoek de verschillen en overeenkomsten tussen veel meer van dit soort fluctuerende taalsystemen in kaart gaat brengen. Op die manier is het mogelijk universele kenmerken van taal beter te beschrijven.

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Curriculum Vitae

Merel Keijzer was born in Wageningen on 17 April 1980. After finishing secondary school (Johannes Calvijn Lyceum in Kampen) in 1998, she started a degree in English Language and Culture at the Vrije Universiteit Amsterdam. As part of this degree, she also took many Applied Linguistics courses, which eventually led to a combined master's thesis on the effects of a visually-oriented computer-based intervention program on the English spelling skills of Dutch dyslexic and poor spellers in secondary education. She graduated with distinction in 2002 and, in that same year, her MA thesis was nominated for the Anéla thesis award. In 2002, she started her PhD education at the English department of the Vrije Universiteit Amsterdam and spent one semester as a visiting scholar at the University of Western Ontario in London, Canada for data collection purposes. Merel Keijzer is currently holding a position as ESL lecturer and researcher at Delft University of Technology.